THE DEVELOPMENT AND FIELD TESTING OF AN INVENTORY OF INTELLECTUAL SKILLS

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ABSTRACT

THE DEVELOPMENT AND FIELD TESTING OF
AN INVENTORY OF INTELLECTUAL SKILLS

by

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The goal of this study was the development and field testing of an Inventory of Intellectual Skills. The study grew from reoccuring requests from Head Start teachers for guidelines that would focus their observations on the growth pattern of each individual child.

The Inventory was designed after a thorough study of the works of Jean Piaget, Jerome S. Bruner, and Maria Montessori. Comparison of their studies provided many common theories. Motor skills, perceptual skills, language skills, memory skills, and problem solving skills were five major common areas. Using the Frost-Rowland structure process approach these five major areas became terminal concepts to be mastered. Each terminal concept was further defined in the terms of several behavioral goals. Research done by Piaget, Bruner, and Montessori was used to establish those behavioral goals which four year olds were capable of obtaining. Games were devised which the teacher could play with the child to see if he had mastery of a particular behavioral goal.

Field testing was done in a cooperative nursery school and two day care centers. Children ranged from three years, three months to five years, ten months. A total of 52 children were observed. After administering the Inventory

teachers were asked to complete a questionnaire describing their reactions to the Inventory and the reactions of the children they observed.

When the field test was finished the Inventory was analyzed item by item and revised. Such things as teacher reaction, child reaction as noted by the teachers, and consistency of scoring were considered. A back-up curriculum was then designed to which the teacher could turn to find games and activities which she could implement in the classroom to create experiences which would stimulate growth towards a particular goal.

Implementation of the Inventory and Curriculum in an early childhood education setting will provide the teacher with tools to closely observe the intellectual growth of each child and to design her program to meet their needs.

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In the past decade America has become concerned that lack of income does not deprive any of its citizens of full educational opportunities. Federal and state monies have been poured into many educational projects to help assure that each individual will have the opportunity to develop to his full potential. Of major interest among these projects has been the Head Start program. Designed to provide for the three and four year old preschooler from the low income home and his family, Project Head Start grew from the knowledge that early childhood experiences are often the most decisive factors in determining whether an individual will or will not grow to his full potential.

Problem

In order to work effectively with the children from low income homes it becomes necessary to reach a full understanding of the growth and developmental characteristics of all preschoolers and those additional characteristics which are common among preschoolers from low income homes. Because federal fundings of most projects are not usually adequate to provide schooling for all of the low income children in one area this investigation will concentrate on the four year old child. The assumption is made that the majority of programs would rather use limited funds to include as many four year olds as possible in their program to assure that they have at least one year of preschool then to enroll three year olds for two years. The child must be considered in the four areas of growth: social, emotional, physical and intellectual.

Social Growth

Four year olds are capable of engaging in solitary, parallel or cooperative play and shift easily from one to another (Breckenridge & Vincent, 1960). Children of this age are capable of shifting from leader to follower and are more aware that there are both times when their needs take precedence over others and times when they can not. The four year old can relate to both adults and other children (Breckenridge and Murphy, 1963).

Riessman (1962) spoke of the opportunities for social growth provided by the extended families, high level of sibling interaction, the extension of mutual aid, and the large degree of mutual cooperation found in the low income home. Because of the advantages these experiences can provide him the four year old child from the low income home will enter the social world of the preschool with the same range of needs and levels of interaction as any preschooler.

Emotional Growth

Although the emotions of the four year old child are still very much on the surface, he is beginning to anticipate the results of situations and emotional ups and downs are becoming more stabilized (Breckenridge & Vincent, 1960). Conscience is beginning to function more often and the child is also beginning to react verbally instead of physically. There may still be times of stubbornness or refusal to do as requested (Lysen & Durian).

Much has been written about the poor emotional development

of the child from the low income home and his need for love and reassurance. These statements, however, need to be realistically analyzed. The prevalent stereotype of the low income family (Billingsley, 1968) is one of the one parent home. This one parent is the mother and often the family is on welfare or Aid to Dependent Children. The lack of a male figure in the home as well as the absence of an emotional climate which is provided by the two parent family is seen as a factor which contributes significantly to the poor emotional development of the children involved. While this situation is quite possibly true for many low income families which are headed by females, the wide spread acceptance of this stereotype as applying to all low income families is not consistent with facts nor conducive to the development of proper attitudes in those who work with low income families. Of the 1,891,000 families in the nation in 1960 which were headed by females, 1,191,000 were families with incomes under the federal poverty guideline of $3,000 (U. S. Census, 1960). This high percentage of female headed families who live in poverty plus the fact that over 75% (roughly 9,000,000) of these families are located in urban areas where the majority of research with low income families has been done has lead, in the opinion of this author, to the popular acceptance of the myth that the majority of low income families are female headed. When the total number of families in 1960 with incomes under $3,000 is compared, however, with the number of families headed by females different percentages are evident. Of the 4,278,000 families living in poverty in 1960 only 1,191,000

of them, or roughly 33% were headed by females. Keyserling (1964) reported 24.6% of the families living in poverty as headed by females and 28.6% of all the people living in poverty in consumer units headed by females. A large portion of time in both types of families is spent in what Riessman (1962) called coping or the daily struggle to make ends meet. Because of this factor the child may not receive as much coddling, holding, or one to one interaction (Bloom, Davis & Hess, 1965; Rodman, 1959). Unfortunately this is often interpreted as lack of love or basis for poor emotional development. The popular idea of poor self-image which is so prevalently connected with low income children is in the opinion of this author, who has worked with over 200 Head Start children, rarely found in the preschooler. A poor self concept stems from a feeling of being unable to achieve and little self-esteem. The four year old when he comes to preschool has had the same number of successes and failures as all children and in most cases has a similar healthy feeling about himself. It would be more accurate to attach this label of poor self-image to the older child who has experienced more schooling and has found that schooling has not been designed to meet his special needs and abilities. The feelings that result from constantly being confronted by a school system which is not designed to provide many experiences of success for these children will over the years produce a child who has a poor self image of his ability to succeed (Bloom, Davis & Hess, 1965; Riessman, 1962).

Physical Growth

The four year old operates at a high level of physical activity and enjoys walking, running, skipping, hopping, and jumping (Breckenridge & Murphy, 1963). He can dress and undress himself if clothing is relatively simple and use the toilet unaided (Lysen & Durian, no publication date). The four year old has developed small muscle and hand and eye coordination to the point of being able to manipulate scissors, crayons, and table implements adequately (Breckenridge & Murphy, 1963).

The four year old from the low income home has this normal command of his muscles in the majority of cases. The development of gross motor skills such as walking and running is not dependent upon purchasing any additional equipment. Small muscle development in some areas may be quite refined because the child has assumed early responsibility in these areas (Riessman, 1962). For example, most children are very capable of dressing and feeding themselves. Other small muscle areas may not be as well refined because limited income has denied the equipment necessary to foster this growth. Included in this may be control of scissors and crayons and other items which require good hand-eye coordination. Lack of income and lack of parental knowledge keep many low income children from receiving adequate medical and dental care (Riessman, 1962; Bloom, Davis & Hess, 1965). Keyserling (1964) documented the relationship between low income and illness. Such things as pre-natal care, health insurance, vision, hearing and dental care, and innoculations for children may

be absent in many families.

Intellectual Growth

There are differences between the level of intellectual growth achieved by the majority of four year olds in the United States and the level of intellectual growth achieved by four year olds from low income homes. In most cases the four year old from the low income home is operating at a lower level of intellectual growth (Hunt, 1964). This is caused by many factors. Hess and Shipman (1965) found that mothers from the lower socio-economic levels communicated with their children in short sentences or one word commands. Limited income restricts the amount spent on toys and books, and those toys and books purchased are given to the child to use as he wishes without the benefit of parental direction and interaction. Perceptual development lags because of the inadequacy of proper stimuli or an abundance of conflicting stimuli (Gray & Klauss, 1965; Riessman, 1962). A foreign language or a regional dialect may be the major language of the home limiting the child's exposure to the language he will meet and be asked to use when he enters school (Berstein, 1961; Riessman, 1962).

Compensatory Preschool Programs

The analysis of research concerning the growth and development of the four year old child coupled with the research related to the child from the low income home has shown the goal of compensatory preschool programs to be

one of providing experiences to assure that the child will continue to develop in the areas of social, emotional, and physical growth. Additional experiences must be provided to assure that the child will be operating on a level of intellectual development which will permit him to have success once he enters the public school. Crucial to the achievement of this goal is a well trained preschool teacher who through observation determines the child's level of development and structures her classroom to stimulate him to grow towards a new level. While the majority of preschool teachers have been well trained to observe a child's level of development in the social, emotional or physical areas of growth, many feel a lack of ability in observing the child's level of intellectual development. A recent survey of 88 Head Start teachers and aides found 22 of the 33 teachers involved requesting more help in planning lessons for their children.[1] Further questioning in this area also documented a desire for more training and information about the intellectual growth of the preschooler. It was the opinion of the author that these questions reflected the difficulty a teacher encounters when she attempts to observe a child's intellectual growth. Physical growth or lack of it can be easily observed. Can the child walk? Run? Climb? Social and emotional growth can also be easily defined and observed. Does the child play well with other children? Is he afraid of adults? Afraid to leave his mother? Does he hit other children to obtain the toys that he wants? The ease with which these observations

[1]Unpublished study by author entitled "Training Needs of Head Start Staff", 1971.

can be made helps the teacher to structure her classroom and teaching to assure the child continues to grow in these areas. But what about intellectual growth? Of what is it comprised at this age? Learning the ABC's? Learning to count? If a child can count to ten can we assume that his intellectual development is adequate? How can a teacher stimulate him to further growth? How can she help compensate for any deficiencies his environment may have created? What are these deficiencies? These are some of the questions that preschool teachers are asking so that they may be better prepared to provide optimal experiences for their children in all areas of growth. The goal of this research became one of compiling present knowledge of the intellectual growth of the four year old child and transposing this knowledge into terms and observation tools which could be easily used by all preschool teachers.

Review of the Literature

"Curriculum development should be based solidly upon the learning principles derived from study of human development (Frost & Rowland, 1969, p. 35)." The development of man's intelligence has been studied throughout time by many people. Considered for this study were the works of Jean Piaget, Jerome S. Bruner, and Maria Montessori.

The Invariance of Developmental Sequence

Rowland and Frost (1969) postulated that all intellectual theorists support the premise of the invariance of the sequence of growth. Piaget spoke of the four stages of growth as

sensori-motor, preoperational, concrete, and formal operations and maintained while children may not all be at the same age while they experience growth in a particular stage they will all proceed through the growth stages in the same order or sequence (1970, pp. 29-33). Bruner (1967) spoke of three levels of representation or learning: the inactive stage, iconic stage, and symbolic stage. He theorized that all children's cognitive development proceeds through these three stages in the same sequence and successively becomes more capable of representing experiences which are more and more complex. Maria Montessori (1959) spoke of sensitivity periods. Materials are introduced in sequential order during that period of the child's growth when it is felt the material will best stimulate him to further growth. Growth in each sensitivity period must be mastered before growth can occur in the next period.

Integration of New Knowledge

Implied in each theory considered was the premise that new growth is integrated into the system provided by growth which has already occured. Piaget (Ripple, 1964) spoke of reaching equilibrium in intellectual growth. Equilibrium occurs when one has integrated those things just learned into the system of what has been previously learned. This is the moment when there is balance between what has been learned and what is yet to be learned. Integration of new concepts occurs through a process of adaptation. Adaptation itself is composed of two processes: assimilation, which is the

integration of new information by the expansion of the structure of past experiences, and accommodation, which is the integration of new information by an addition or restructuring of present knowledge. Through operations between himself and the environment the child continuously adapts new information and reaches higher and higher levels of equilibrium. He can not, however, assimilate any information unless there is a framework for them provided by past assimilations.

Bruner (1964) theorized that growth is both dependent upon the child developing methods of representing events which occur in his environment and being able to tie those events into a system of past events. The organization and integration of these new events into the cognitive structure provides the means for the child's skill at future problem solving and representation of events. The representation of any event at any stage of development in isolation will not facilitate the child's further intellectual development.

Montessori was also supportive of the theory that the learning process was one of continuity. She viewed the world that the child was born into as chaotic and theorized that each piece of information he internalized brought structure to that chaos (1959).

Individualization of Growth Rate

As essential to all these theories was the idea of a sequential order of growth. While the implication that growth steps are hierarchial was assumed, Piaget, Bruner, and Montessori also all assumed that a child will proceed upwards

through these stages at his own pace. Although Piaget has tied each of his four levels of intellectual growth to a particular age span these spans are defined quite generally and children are expected to reach equilibrium on a new level when they are ready to, not when they are at a specific age (Ripple, 1964).

Bruner also tied average age levels to ability to complete several tasks, but acknowledged that the sequence of the tasks was the most important consideration.

Montessori put more stress on this idea than any educator before her time. The child must be allowed to proceed at his own rate of speed. If a child has not mastered experiences at earlier levels of growth the teacher can not expect him to achieve skill at a higher level no matter how many other children his age are doing so.

Learning Through Action

The young child receives new knowledge through direct manipulation of objects and events. Piaget contended that no learning will occur unless the child is actively involved in the manipulation of an object. The first type of experiences that a child has with an object provide him knowledge about the object. As his ability increases the child also observes logical-mathematical experiences (1953) where new knowledge is drawn from his actions upon the object and not the object itself. For example the young child will conclude that a ball of clay is gone when it is flattened. The older child will focus upon the action he initiated, not the object itself, and

conclude that he can reverse his action and reshape the clay into a ball. Higher levels of conceptualization occur as the child internalizes his own actions. "Knowledge is derived from action...to know an object is to act upon it and transform it, in order to grasp the mechanisms of that transformation as they function in connection with the transformative actions themselves. To know is therefore to assimilate reality into structures of transformation, and these are the structures that intelligence constructs as a direct extension of our actions (Piaget, 1970, p. 29)."

Montessori felt that children learn through detailed movements. She engaged the child's senses and muscles in the use of all her equipment. Her method was "established upon one fundamental basic--the liberty of the pupils in their spontaneous manifestations (Cole, 1959, p. 11)." The only purpose of the teacher was to give each pupil the next activity which he was to master.

Bruner (1967) conceded the same role of action in the inactive stage of development which is the first stage of intellectual growth in his theory. He noted that the baby will try to regain a dropped rattle by shaking his hand. His perception of the rattle is tied into and defined by the action he initiates with it. Schema become formed when several different actions are integrated together. While Piaget (1970, pp. 72-80), however, contended that language in itself was not sufficient to bring about cognitive growth, Bruner suggested that it played a prime role in the growth

which was occuring during the iconic and symbolic stages. While manipulation of objects is still present as an important method of processing information he felt that if the situation was structured so that the child must use higher levels of representation "language shapes, augments and even supercedes the child's earlier modes of processing information (1964, p. 13)." Bruner has been often named, however, as one of the most eloquent defenders of the discovery method of learning. The basic premise of this method is that the earliest form of learning is accomplished by direct manipulation of objects and events.

Acknowledging the difference in emphasis on language there remains sufficient evidence that "cognitive and affective structures which education should nourish are natural emergents from the interaction between the child and the environment under conditions where such action is allowed or fostered (Kohlberg, 1968, p. 1015)."

Importance of Learning in the Early Years

All three theories reflected the importance of learning in the early years of life. Montessori was one of the first educators to postulate that learning in early life determined later success at and ability for learning. The majority of Montessori's sensitivity periods occur before the age of six in most children. Piaget found most children to have progressed through the first two of his four stages of intellectual growth by entrance to school at five or six and to be in the third stage of concrete operations. Bruner found growth in all

three of his stages in the first five years of life.

Comparison of Learning Stages

Comparison of the learning stages of the theories of Piaget, Bruner, and Montessori (Figure 1) finds many similarities. Where terminology may differ earliest stages are seen as action oriented and based upon motor responses and gradual control of reflexes. Following in each theory are stages during which the child interprets objects and action on the basis of what he sees. Symbolic thought is seen to begin in this stage with the emergence of language. It is in this second stage that we find a majority of four year olds. The remaining stages in each theory occur as the child becomes more and more capable of increased abstract thought and reasoning and becomes less dependent upon his actual perception of the object or event.

Bridging the Gap Between the Theory and the Classroom

Kohlberg stated that "while Piaget's ideas are salient wherever research is done on early cognitive development, their salience in formulation of goals and processes in early education is much less widespread (1968, p. 1013)." It was important for this research that the theories of intellectual growth not only be studied, but that they be defined in terms of behavioral goals which could be understood by the teacher. It was felt that such a redefintion would enable teachers to plan classroom experiences which would promote intellectual growth in children. Hunt proposed that such "planned

Comparison of Learning Theories

Piaget	Bruner	Montessori
Sensori Motor 0 - 18 or 24 mos.	Enactive 0 - 12 mos.	Sensory Experiences birth to three years
action oriented control of reflexes	learning from doing motor responses	great activity absorption of environment
Preoperational 2 - 7 years	Iconic	Coordination 1½ - 4 years
introduced by new use of language perceptually oriented self-centered view of world	able to represent objects without action self-centered dependence on surface clues	muscle development interest in objects Language Development 1½ to 3 years
Concrete Operations 7 - 12 years	Symbolic	Refined Movement 2 - 4½ years
combines elements on basis of more than one variable can conserve and reverse with concrete objects	governed by principles abstract thought	aware of sequence, order, time and space Sensory Refinement 2½ - 6 years
Formal Operations		Writing 3½ - 4½ years
logical thought decision made without manipulation of objects abstract thinking		Tactile Sense 4 - 5 years Reading 4½ - 5½ years

Piaget (1926, 1953, 1970, Ripple 1964)
Bruner (1960, 1964, 1967)
Montessori (1959, Hainstock, 1968)

Figure 1 Comparison of Learning Theories

experiences might well be the answer to low income children (Merrill-Palmer Quarterly, 1964, p.48)." Gagne (1962) suggested taking broad or general learning tasks and examining them to see the basic skills of which they are composed. He maintained that to succeed at a higher level of knowledge a person must have succeeded at all lower levels. Each task given a child should be examined to see what knowledge the child would need to perform it without help. Each subordinate level of knowledge should be similarly examined to see the components of knowledge it contains until the task is reduced to mastery of certain basic skills.

Frost and Rowland (1969) described a similar theory which they labeled the structure process approach. They theorized that the hierarchial structure of knowledge suggests that any concept is composed of simpler and simpler concepts until the learner is acting directly upon objects. End concepts to be mastered were labeled terminal concepts and those in turn were divided and sub-divided into concepts and skills the mastery of which was essential to mastery of the terminal concept. The many similarities described in the theories of Piaget, Bruner, and Montessori and the comparisons which can be made between the stages of development in each theory suggest the use of the structure-process approach. Our terminal concept became one of the mastery of intellectual skills of the fourth year of growth. Although all four year olds would not operate at the same level of intellectual achievement a further analysis of research established those skills of intellectual growth which the majority of four year olds would have

reached by entrance into our public school system. Breaking down the terminal concept of mastery of intellectual skills into its several sub-terminal concepts gave a specific and concrete list of behavioral goals which the teacher could use to both ascertain the individual growth level of any child in her classroom at a particular moment and to set up learning situations which would stimulate further growth on his part.

Development of an Inventory

While each researcher had his own terminology which he applied to the data he compiled, it was felt that the following five areas were considered in the majority of the research concerned with the development of cognitive structures: motor skills, perceptual skills, language skills, memory skills, and problem solving skills. These five skill areas were designated as terminal concepts and became the five major devisions of the instrument. It was felt that an analysis of these skill areas to determine the specific skills which they were composed of for the average four year old child would result in several simpler and more concrete skills which could be redefined as behavioral goals for the classroom. The instrument was named the Inventory of Intellectual Skills.

Motor Skills

Kephart (1965) defined motor skills as the basis of all learning. Piaget, Bruner, and Montessori all mentioned the basic motor skills which the infant must master previous to all other learning. The infant must grow from operating on the basis of total reflexes to a point where he has translated

these reflexes into conscious actions. The first months of life are spent repeating actions first on the basis of reflexes and later on the basis of self-demand. After the action is repeated a sufficient number of times it becomes internalized so the child can do it automatically without concentrating upon it. Kephart (1965) differentiated between motor skills which must be thought about as they were done and motor patterns which could be done automatically. The development of motor patterns was essential so that the performance of the motor operation could become secondary and the operation used to gather further information. For example, in stringing beads the child must coordinate his mastered motor patterns of grasping objects with another mastered pattern of focusing his eyes for the motor operation of hand-eye coordination.

Perceptual Skills

As the young child gains control over the use of his body he begins to use his senses to explore and learn about the world around him. The information received from reoccuring experiences via the senses gradually becomes internalized into his basic system of knowledge. When he has mastered control of his muscles sufficiently to grasp an object at his will his attention now turns from concentrating on grasping it to the item itself. Through several interactions between his senses and the item he begins to develop a cognitive structure about it and integrate this structure into the main structure he has developed from past interactions and

events. Further items and events are perceived by his senses and interpreted in light of and integrated into past perceptions. As his perception skills increase items are considered more carefully and more subtle differences and likenesses are observed. All knowledge initially comes to the child via the various senses and perceptual skills are necessary so that he may further refine the cognitive framework established during the motor period. The perceptual world is the world of the concrete where the thought of the child is influenced almost completely by his perception of an object and/or an event.

Language Skills

Most learning theorists have agreed that language is an outward manifestation of the child's increasing ability to view objects and events symbolically. Meaning comes to consist of more than just the presence of an object and includes the relationship between that object and its symbol. The child comes to attach labels to situations and events and talk about them. This verbal ability is considered a primary linguistic skill and the secondary linguistic skills of reading and writing, which are at a higher level of abstraction, are dependent upon its mastery. The child becomes able to internalize an increasingly larger number of experiences into his cognitive structure as the use of symbolic labels facilitate his comprehension of these experiences.

Memory Skills

Memory has constantly been developing as the child repeats similar experiences and integrates their common actions into his cognitive structure. While in early years memory was stimulated by the presence of a concrete object as language develops the child's memory grows so that he can recall objects or events on the basis of symbolic stimulus. The increasing development of symbolic memory greatly expands the child's cognitive structure and the ease with which the child internalizes new experiences.

Problem Solving Skills

Problem solving involves the ability to work with information on an abstract level and is the highest point of conceptual thought. The child is no longer bound by what his senses tell him, but can depend upon his cognitive structure to give him all the aspects of a situation whether they are directly perceivable or not. This child knows that if you have six children, five of which are girls, there are still more children than girls. He realizes that he has the same number of candies as another child because they both have six pieces even though his are all near each other and the other child's are stretched out in a long row. He can arrive at the same conclusion in several different ways. Thought processes are no longer tied into the concrete but are based on the abstract.

The Four Year Old Child

Piaget found the majority of four years olds to be in the pre-operational period. In his framework Bruner placed them in the iconic period and Montessori spoke of a period of sensory exploration. Previous comparisons between the three theories place the majority of children at this age at an operation level which is based upon their perception of an event or object. There is a strong dependence upon surface clues as the motivation for actions and reasoning. The child in this stage sees the world in the light of himself and has difficulty perceiving anything from another's viewpoint. This child usually perceives only one factor of an item and usually bases his thoughts about that item on this one factor.

The Inventory of Intellectual Skills

The inventory was composed of five terminal concepts and the sub-terminal concepts which they were comprised of at the four year old level.[2] Sub-terminal skills were arranged in sequential order and a game was devised for each skill. As the child participates in each individual game the teacher can analyze by observation of his activity whether he has mastery of the skill, partial mastery or no mastery at all. Directions for scoring each game on an individual profile sheet provides at the completion of the inventory a complete picture of the intellectual strengths and weaknesses of an individual child. Directions for administering and scoring were provided in the accompanying manual.[3]

[2]See Appendix A

[3]Because of the length of the manual the revised teacher's manual is the only one included in this paper--Appendix D.

Field Study

After the completion of the Inventory the following questions were considered:

Did the Inventory contain those skills which the average four year old was mastering?
Were the skills within a terminal concept arranged in a sequential order?
Did the games devised measure the skill adequately?
Were there any skills that could be combined to shorten the length of the Inventory?
Were there any skills that had been inadvertently left out of the Inventory?
Were teachers and aides able to understand the directions?
Was there any need for a follow-up curriculum?

To answer these questions and therefore offer some validity for using the instrument with young children a field study was initiated where teachers and aides gave the Inventory to children and then registered their own reactions to it on a questionnaire.[4]

Seven teachers and eight aides administered the Inventory to 52 children. Three teachers and seven aides reacted to the Inventory on the questionnaire and the remaining teachers and aides reacted verbally or by making comments directly upon the Inventory manual. Twenty-one of the Inventories were administered to children who attended a full-day day care situation and the remaining thirty-one were administered to children in a two hour nursery cooperative. Children ranged in age from three years, three months to five years, ten months (Table I). The majority of the children came from middle income homes where one parent was either working or enrolled in college as a graduate or undergraduate student.

[4]See Appendix B

Table I
Age Range of Children in Field Test

Age	Number of Children
3 years, 3 months	1
3 years, 5 months	1
3 years, 9 months	2
3 years, 11 months	1
4 years, 1 month	1
4 years, 3 months	1
4 years, 4 months	2
4 years, 5 months	2
4 years, 6 months	2
4 years, 7 months	4
4 years, 8 months	8
4 years, 9 months	5
4 years, 10 months	4
4 years, 11 months	4
5 years, 0 months	5
5 years, 1 month	1
5 years, 2 months	2
5 years, 3 months	3
5 years, 4 months	1
5 years, 5 months	1
5 years, 10 months	1
	52 children

Analysis of Field Test

In order to determine whether any revisions were necessary in the Inventory an analysis of the individual scores of each child was made. Before this was begun, however, the following hypotheses were set up.

1-The younger the age of the child the more scores of one and two.[5]

2-There should be an increase of scores of one and two as children advance through each sub-section of the Inventory and skills become more complex.[5]

3-There should be an increase of scores of one and two as children advance through the Inventory and the games and terminal concept areas reflect increasingly complex skills.[5]

[5]A score of 3 indicates complete mastery of a goal or skill; a score of 2 indicates partial mastery where more practice is needed; and a score of 1 indicates no mastery at all.

Each hypothesis was considered individually.

Hypothesis I--The younger the age of the child the more scores of one and two.

In order to test this hypothesis the scores obtained were divided into two equal groups for comparison. One groups of 26 scores was composed of those children who ranged in age from three years, three months to four years, eight months. This was considered the group of younger children and named Test Group I. The second group of 26 children was composed of those children from four years, nine months to five years, ten months. This was considered the group of older children and named Test Group II. The total number of possible scores recorded for all the children in all the Inventories given was 2964. These scores are recorded in Table II. Fifty percent of these scores would be 1482 scores, 33 1/3% would be 988; 75% would be 2223; and 25% would be 741.

Support for this hypothesis was found by comparing the total number of scores in Group I of one and two to the total number of scores of one and two in Test Group II. Of the total 2964 scores recorded in the field test, 243 were scores of one. Roughly 66 2/3% of these scores, or 174 scores, were recorded in Group I which was the group of younger children. Of the total of 2964 scores recorded in the field test, 454 were scores of two. Roughly 60%, or 267 scores, were recorded by Group I which was the group of younger children. Seventy-six of the total 2964 scores were not marked at all with a number although many Inventories had such comments as child feels pressure so stopped, child unable to pay attention,

etc., written on them. Sixty-two of these 74 unmarked scores were found on the Inventories of the younger children in Group I. These comparisons of scores clearly proved that the younger children have much more difficulty with the Inventory and confirmed the first hypothesis.

Hypothesis II--There should be an increase of scores of one and two as children advance through the Inventory and the games and terminal concept areas reflect increasingly complex skills.

In order to test this hypothesis the individual scores of each sub-section were analyzed. In section I, Motor Skills, there was a total of 572 scores made in eleven different items. Items I-1 to I-6 were considered the beginning items of this section and items I-7 to I-11 were considered the advanced items. Of the total of 46 scores of 1 made in this section, 6 or roughly 15% were made in the beginning items and 40 were made in the advanced items. Of the total of 103 scores of 2 made in this section, 37 or roughly 37% were made in the beginning items and 66 were made in the advanced items.

In Section II of the Inventory, Perceptual Skills, there were 16 items with a possibility of 832 scores. Items II-1 to II-8 were grouped as beginning items and compared to II-9 to II-16 which were the advanced items. Of the total of 19 scores of 1 made in this section, 5 or roughly 25% were made in the beginning items and 14 were made in the advanced items. Of the total 73 scores of 2 made in this section, 16 or roughly 21% were made in the beginning items and 57 were made in the advanced items.

In Section III of the Inventory, Language Skills, there were 11 items and a possible 572 scores. Items III-1 to III-6 were grouped as beginning items and items III-7 to III-11 were grouped as advanced items. Of the 63 scores of 1 made in this section, 24 or roughly 40% were made in the beginning items and 39 were made in the advanced items. Of the total of 91 scores of 2 made in this section, 42 or roughly 46% were made in the beginning items and 49 were made in the advanced items.

In Section IV, Memory Skills, there were 13 items and a possible 676 scores. Items IV-1 through IV-7 were grouped as beginning items and IV-8 through IV-13 were grouped as advanced items. Of the 69 scores of 1 recorded in this section, 34 or roughly 50% were recorded in the beginning items and 35 were recorded in the advanced items. Of the total of 143 scores of 2 recorded in this section, 73 or roughly 50% were recorded in the beginning items and 70 in the advanced items.

In Section V, Problem Solving Skills, there were 6 items and a possible 312 scores. Items V-1 through V-3 were grouped as beginning items and V-4 through V-6 as advanced items. Of the total of 46 scores of 1 made in this section, 25 or roughly 54% were recorded in the beginning items and 21 recorded in the advanced items. Of the total of 44 scores of 2 made in this section, 18 were made in the beginning items, roughly 43%, and 26 made in the advanced items.

The hypothesis is supported in Sections I, II, and III where there are substantially fewer scores of 1 and 2 in the beginning items in each section. In Sections IV and V the support is not as strong with scores of 1 and 2 being found in the beginning and advanced items in somewhat equal amounts. This difference in the last two sections is quite possibly a reflection of the increase of scores of 1 and 2 found in them as compared to earlier sections.[6] The difference in the scores of the last two sections could also, however, reflect a weakness in sequence in this part of the Inventory. This was examined and the results are reported under Revision of the Instrument.

Hypothesis III--There should be an increase of scores of one and two as children advance through the Inventory and the games and terminal concept areas reflect increasingly complex skills.

In order to test this hypothesis the number of items in the Inventory was divided in half and comparisons were made between the two groups. Group I consisted of those items in the first half of the Inventory. It was composed of Items I-1 through III-2. A total of 1508 scores were recorded for all the children in this group of items. Group II was composed of the items in the latter section of the Inventory. Included in this group were items numbered from III-3 to V-6 and a total of 1456 scores were recorded in this group. Of the total number of 243 scores of 1 recorded for the entire Inventory, 72 or roughly 30% were recorded for Group I of beginning items. The group of latter items contained 171

[6]See hypothesis number 3.

scores of one. Of the total of 454 scores of two recorded in the field test 181 or roughly 40% were made in Group I which was the beginning items of the Inventory and 273 were made in Group II or the latter items of the Inventory. Only 9 of the 76 scores where no number was recorded were in Group I or the first half of the Inventory. The scores which resulted from the field test clearly supported the hypothesis as the greatest number of scores of one and two were found to be in the latter half of the Inventory.

Except for the weak support for the latter part of the second hypothsis, scores were found to support all three hypotheses adequately.

Revision of the Instrument

Revision of the instrument was based upon the reactions of examiners and the range of scores from the field test (Table III). Each section of the Inventory was considered separately and reasons were formulated for changes made. The validity of the sequence of the original instrument was analyzed by comparing the number of children who obtained scores of three on each item within each section.[7]

Motor Skills

There was little reaction to this section via the questionnaire or comments made verbally or written on the manual.

The only item which was felt by examiners to be poorly

[7]See hypothesis 2.

TABLE II
Individual Scores in Field Test

Item No.	Ages 3-3	3-5	3-9		3-11	4-1	4-3	4-4		4-5		4-6		4-7				4-8								4-9				
I-1	1	3	3	3	2	3	3	3	3	3	2	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	1	3
-2	1	2	3	3	1	3	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	3
-3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
-4	3	3	3	3	2	3	3	3	3	3	2	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
-5	2	2	2	3	2	3	2	3	3	3	2	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3
-6	3	2	2	3	3	3	2	3	3	2	3	3	3	3	2	3	3	2	3	2	3	3	3	3	3	3	2	3	3	3
-7	2	x	2	3	2	3	2	3	3	3	2	3	3	3	3	3	1	3	1	3	2	3	2	1	3	3	3	3	3	3
-8	2	2	2	3	1	2	2	3	2	3	1	3	3	3	3	2	3	3	1	3	1	1	2	2	3	3	1	3	3	3
-9	1	2	2	3	1	1	1	3	3	2	1	3	2	2	2	2	2	3	3	2	1	1	3	1	3	3	1	3	2	3
-10	x	2	1	3	2	3	2	3	2	2	2	3	2	3	3	3	3	3	1	3	3	3	1	3	3	3	3	3	3	2
-11	1	1	1	2	1	3	1	3	1	3	1	3	2	3	1	3	3	3	1	1	1	1	2	1	3	3	1	3	3	2
II-1	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
-2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
-3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3
-4	3	1	2	2	2	3	3	3	3	3	2	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3
-5	3	3	2	1	2	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
-6	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
-7	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
-8	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3
-9	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
-10	3	3	3	x	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
-11	2	2	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3
-12	3	2	2	3	3	2	3	3	2	3	3	3	2	2	3	2	3	3	2	2	3	2	3	2	3	3	3	3	3	3
-13	2	1	1	3	2	1	2	3	3	3	2	3	3	3	3	3	3	3	1	2	3	2	3	3	2	3	3	3	3	3
-14	x	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2	3	3	3	3	3	3	3	3
-15	x	1	3	2	2	2	3	3	2	2	2	3	3	3	2	2	3	3	1	3	1	2	2	3	3	3	3	3	3	3
-16	x	1	1	2	2	3	3	3	2	3	2	3	3	3	2	2	3	3	1	3	2	1	3	3	3	3	3	3	3	3
III-1	x	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

TABLE II
Individual Scores in Field Test

Item No.	Ages 3-3	3-5	3-9		3-11	4-1	4-3	4-4		4-5		4-6		4-7				4-8								4-9				
III-2	x	3	1	1	3	3	3	3	2	3	3	3	3	3	3	1	3	3	2	2	2	1	3	2	3	3	3	3	3	2
-3	x	x	1	3	3	1	3	3	3	3	3	3	3	3	2	3	3	3	1	3	2	2	1	3	3	3	3	3	1	3
-4	x	3	2	3	3	3	2	3	3	3	3	3	3	2	3	3	3	3	2	3	2	3	3	2	3	3	3	3	2	3
-5	x	x	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	2	3	3	2	1	3	3	3	3	3	3	3
-6	x	x	1	3	2	1	2	3	3	2	2	3	3	2	3	3	3	2	2	2	2	3	1	2	2	3	3	3	3	3
-7	x	x	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	1	3	3	3	3	3	3	3
-8	x	x	1	x	3	2	2	3	1	3	3	2	2	1	1	1	1	2	1	1	1	1	2	1	1	2	1	2	2	1
-9	x	3	1	1	3	2	2	3	1	3	1	3	2	2	3	1	1	3	1	2	1	1	3	1	1	3	3	3	1	1
-10	x	3	2	3	3	1	3	3	3	3	1	3	3	3	3	3	3	3	2	3	3	3	2	3	3	3	3	3	3	3
-11	x	1	2	2	3	1	2	2	3	3	1	3	3	3	3	3	3	3	2	3	2	2	2	2	3	3	3	3	3	3
IV-1	x	x	1	3	1	1	3	3	3	3	1	3	3	3	3	3	3	3	2	3	1	3	3	2	3	3	2	3	3	3
-2	x	x	1	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1	3	3	3	3	3	3	3
-3	x	x	2	3	3	2	3	3	2	3	3	3	2	3	3	3	1	3	1	1	2	2	1	3	3	3	1	3	2	2
-4	x	3	3	2	2	2	2	3	2	2	2	3	3	2	2	2	2	2	1	2	2	2	2	2	3	3	2	3	2	2
-5	x	3	1	3	1	3	2	3	3	2	3	3	3	3	3	3	3	3	3	3	1	3	2	1	3	3	3	3	3	3
-6	x	1	2	x	1	1	1	3	2	2	2	3	1	3	2	2	2	2	1	2	1	2	2	2	3	2	1	3	3	2
-7	x	1	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	2	2	3	3	2	3	3	3	3
-8	x	x	1	3	3	3	3	3	3	3	x	3	3	3	3	3	3	3	1	3	3	3	1	3	3	3	2	3	3	3
-9	x	x	2	2	2	1	2	3	2	3	2	2	2	3	2	3	2	2	1	2	1	1	2	2	1	2	2	3	2	2
-10	x	1	2	2	1	1	3	3	1	3	1	3	3	1	1	1	3	1	2	3	1	1	2	2	2	1	2	1	1	2
-11	x	3	3	3	1	3	2	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	2	3	3	3	3	3	3
-12	x	2	2	2	1	2	2	3	3	3	3	3	3	3	3	3	3	3	2	3	3	2	2	3	3	3	3	2	3	3
-13	x	1	x	3	1	2	2	3	3	3	2	3	3	3	3	3	3	3	2	3	3	3	2	3	3	3	3	3	2	3
V-1	x	x	x	3	3	3	3	3	3	3	1	3	3	3	3	3	3	3	2	1	2	3	3	3	3	3	3	3	3	3
-2	x	x	x	2	1	3	1	3	2	3	1	3	3	3	3	3	3	3	1	2	1	1	3	3	1	3	1	3	3	1
-3	x	1	x	3	1	3	1	3	2	1	1	3	3	3	1	3	1	2	1	1	1	3	2	1	1	3	1	3	3	3
-4	x	x	x	2	1	2	2	3	2	2	2	3	3	3	3	2	3	3	1	3	1	2	3	3	3	3	3	3	2	3
-5	x	2	x	2	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	2	3	3	3	3	3	3	3
-6	x	x	x	2	2	3	2	3	2	2	1	3	1	3	3	1	3	2	1	3	1	1	1	1	1	3	3	3	3	1

TABLE II
Individual Scores in Field Test

Item Nos.	Ages 4-10				4-11				5-0					5-1	5-2		5-3			5-4	5-5	5-10
I-1	3	3	2	3	3	3	3	3	3	2	3	3	2	3	3	3	3	3	3	3	3	3
I-2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
I-3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
I-4	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	2	3	3
I-5	3	3	2	2	3	3	3	2	3	3	2	3	2	3	3	3	2	3	3	2	3	3
I-6	3	3	2	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3
I-7	3	3	3	3	3	3	3	2	2	3	3	3	2	3	3	3	3	3	3	2	3	3
I-8	3	2	2	3	3	2	3	2	3	1	2	3	2	3	3	3	3	2	3	2	2	3
I-9	3	2	2	2	3	1	3	2	2	1	2	3	1	3	3	3	2	3	3	2	2	3
I-10	3	3	2	3	3	3	3	2	3	2	3	3	2	3	3	3	3	3	3	3	3	3
I-11	3	2	3	3	3	1	3	3	3	1	3	3	1	3	3	3	3	3	3	3	3	3
II-1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
II-2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
II-3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
II-4	3	3	3	1	3	3	3	3	3	3	3	3	x	3	3	3	3	3	3	3	3	3
II-5	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1
II-6	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3
II-7	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
II-8	3	3	2	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2
II-9	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
II-10	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
II-11	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
II-12	3	3	3	3	3	3	3	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3
II-13	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
II-14	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
II-15	3	3	3	2	3	2	3	3	3	2	3	3	3	3	2	3	3	3	3	2	3	3
II-16	3	2	3	3	3	3	2	3	3	3	2	2	2	3	3	3	3	3	3	3	3	3
III-1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

TABLE II
Individual Scores in Field Test

Item Nos.	Ages																							
	4-10				4-11				5-0					5-1		5-2	5-3			5-4	5-5	5-10		
III-2	3	3	3	3	3	1	2	3	3	1	3	3	3	2	3	3	2	3	3	3	3	3		
III-3	2	3	3	3	3	3	2	2	3	1	2	3	2	3	3	3	3	3	3	2	3	2		
III-4	3	3	2	3	2	3	3	3	3	3	3	3	2	2	3	3	3	3	3	3	3	3		
III-5	2	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
III-6	3	2	3	3	3	3	2	1	3	1	2	3	2	2	3	3	3	3	3	3	3	2		
III-7	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3		
III-8	3	3	3	3	3	1	1	2	3	1	3	2	1	1	3	2	2	3	3	2	3	2		
III-9	3	3	3	3	3	1	3	3	3	1	3	3	2	3	3	3	3	3	3	3	3	3		
III-10	2	3	3	3	2	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3		
III-11	3	3	3	3	2	2	3	3	2	1	3	3	3	3	3	3	3	3	3	3	3	3		
IV-1	3	3	3	3	3	3	3	3	3	3	1	3	3	3	3	3	3	3	3	3	3	3		
IV-2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
IV-3	3	3	3	2	2	2	3	1	3	3	1	3	3	2	3	3	3	3	3	3	3	3		
IV-4	3	2	3	3	3	2	3	3	3	1	3	3	3	3	3	3	2	3	3	x	3	3		
IV-5	3	2	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	x	3	3		
IV-6	3	2	2	3	3	3	3	2	1	2	2	2	3	1	3	2	3	2	1	x	1	2		
IV-7	3	3	3	2	3	3	3	2	2	2	3	3	3	3	3	3	3	3	3	x	3	3		
IV-8	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3		
IV-9	3	2	3	2	2	2	3	1	1	2	2	2	1	3	3	2	3	3	3	x	3	3		
IV-10	3	1	1	1	3	2	3	2	1	3	3	3	1	2	3	3	3	3	3	x	1	2		
IV-11	3	1	3	3	3	3	3	3	1	3	3	3	3	2	3	3	3	3	3	x	3	3		
IV-12	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	x	3	3		
IV-13	3	3	2	3	3	3	3	3	2	3	3	3	3	2	3	3	3	3	3	x	1	3		
V-1	3	3	3	3	3	3	3	3	3	3	3	3	2	2	3	3	3	3	3	x	3	3		
V-2	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	x	3	2		
V-3	3	3	2	3	2	2	3	3	1	3	2	3	2	1	3	3	3	3	3	x	2	3		
V-4	3	3	2	3	3	1	3	2	3	1	2	3	3	2	3	3	3	3	3	x	2	3		
V-5	3	3	3	3	3	3	3	3	3	2	1	2	3	3	3	3	3	3	3	x	3	2		
V-6	3	3	3	3	3	1	3	3	1	1	3	3	3	3	3	3	3	3	3	x	3	3		

x -- incompleted item

worded was I-10 which asked the child to point to top, bottom, front, back, right side and wrong side. The teacher was directed to place a book in front of the child and ask him to find the preceding positions in relation to it. Teachers reported that children were either anxious to look through the book or were confused as to what was expected of them. This item was changed to ask the child to point to his own top, bottom, front and back. This revised procedure was tried with ten children who responded quickly by pointing to the locations in relationship to their body.

There is a gradually lessening occurrence of scores of three throughout this section except for item I-10. While only 27 children scored responses of three on item I-8 and 21 recorded scores of three on I-9, there are 36 children who were able to score three on I-10. As this was the same item as mentioned in the preceding paragraph which many teachers felt their children did not understand, it was felt that in its revised form, which was more understandable, this number of scores of three would rise even higher. For these reasons the item was renumbered I-3 and all other items were advanced one number higher.

Perceptual Skills

Based on several common reactions many items in this section were changed. Items II-4 and II-5 caused many problems. They required the child to, respectively, discriminate between common sounds and identify common sounds. In II-4 the child is to stop the examiner when the sound which he has been

directed to listen for was made. In II-5 the child was to identify the sound the examiners made. In both items the child was to have his eyes closed. Many examiners reported that the children had a difficult time remembering to close their eyes and keep them closed and that the item had to be repeated several times until they did so. Children also complained about the items being too much of the same thing and were restless throughout them. In order to solve these two problems both items were reworded into one. In the revised Inventory the child is asked only to identify common sounds and the assumption is made that if he can do this he can also discriminate between common sounds. For those children who have difficulty with this new task it is suggested to the teacher in the curriculum that she begin with the discrimination of common sounds. In the revised manual the child is directed to turn his chair around so that he can not see the examiner and new sounds are introduced in a manner which makes them difficult for the child to see.

Item II-13 which stated that the child could reproduce a pattern required the examiner to make a pattern with colored beads and have the child create the same pattern with his beads. The reactions to this item were numerous. Four different bead patterns were asked for and many teachers reported that their children grew restless before the item was over. Beads rolled off the table as much as they stayed on it. In the revised manual the number of patterns was reduced and color chips were substituted for beads.

All examiners felt that the cards used for II-15 which

tested whether the child could discriminate between conflicting visual stimuli needed to be better made. The child was first asked to pick the circles out of a group of objects and then the squares and the task became too difficult because circles and squares had been drawn too hastily. More concise directions for the manufacture of these cards were included in the revised manual so that shapes would be drawn to the right proportions and directions for administering the task were made more complete.

Most teachers reported that it was difficult to find a puzzle with four to six pieces which was required for Item II-14 and this was changed to seven to ten pieces.

The majority of teachers felt that the directions for making the equipment needed for II-16 which asked the child to recognize his first and last name were unclear. Directions were made simpler and more concise in the revised manual.

The sequence of the items within the section was changed based upon the results of hypothesis two. Item II-7 which asks the child to match objects was renumbered II-1 as all children completing the Inventory had mastery of it. This resequencing was also consistent with the theory of Piaget which required that children work with concrete objects before symbolic ones. For the same reason item II-10 was renumbered II-2. This item required the child to match pictures of objects to objects. Item II-8 which required the child to match shades of the same color was dropped from the Inventory and included in the curriculum as an advanced skill for children to work on after they had mastered matching colors.

Language Skills

The majority of examiners felt that the Inventory should require the child to be able to name the shapes as well as the colors as this knowledge is required from the child during his first year of public schooling. For this reason III-2 was redesigned to have the child name both colors and basic shapes.

II-4 which required the child to be using correct pronunciation of sounds was reworded to indicate that the child was using correct pronunciation of beginning sounds. This was done to clarify the item for the examiner.

Item III-6 required the child to describe an object using two descriptive phrases. Examiners felt that the directions were not completely clear and also felt that the items suggested in the Inventory were not the best ones available. Directions were revised in the manual and items were changed.

Item III-7 determined whether the child could use oral context to determine the truth of statements. It was the personal feeling of the author after working with 20 children that this item did not adequately test this skill. Most children had a high degree of success with this item and according to research it should be one of the more difficult items. Forty-five children obtained a score of three. Only on one other item in the entire section did so many children obtain such a number. The item was revised to contain five open ended sentences which the child must fill in to make sense. For example, the child is asked to complete: animals have _____.

In item III-10 the child is asked to give the names for

ten everyday objects. In the original manual the selection of these objects was left to the teacher. Most examiners requested that a list be included and this was done in the revised manual.

Memory Skills

Item IV-4 which required the child to count to 19 by rote produced many questions as to its location within the Inventory. Because it is a skill which is composed of several previous skills it was changed to be the last item within the Language Skills section. It was felt that this would reflect the fact that this goal reflected skill in both the language and memory areas.

Item IV-6 which required the child to duplicate patterns which the examiner had shown him and then hidden presented problems for most examiners. The most common criticism was the length of the game. The game was considerably shortened in the revised manual and directions were made clearer.

Item IV-10 which required the child to duplicate the tapping pattern which the examiner makes on the edge of the table with a pencil was felt by all examiners to be too difficult for this age child. This is reflected by the fact that only 18 of the 52 children recorded a score of three with it. This was changed to having the child duplicate a clapping pattern which the examiner made because it was felt that clapping produced clearer and more distinguishable sounds.

Three items were omitted from this section in the revised Inventory. Item IV-1 which required the child to find an object in the room after listening to a description of it was

one of these. Examiners reported that children were confused by these descriptions and had trouble locating the object in the room unless it was a very obvious one and then the item became too easy. As this item stressed memory of words and sentences it was felt that an adequate assessment of the child's ability in this area would be made by including only item IV-13 which required him to answer questions after listening to a story. Item IV-5 which asked the child to repeat a simple song or fingerplay was eliminated for the same reason.

Item IV-8 which required the child to identify something by touch was eliminated because it was felt that this duplicated the previous item, II-5, which required the child to match objects by touch alone. In the curriculum the teacher is given guidelines for the sequential development of this earlier goal and it was felt that this later item was being repetitious and lengthening the Inventory.

The sequence of items was changed somewhat when scores indicated that IV-11 and IV-12 which required memory of words and numbers were successfully completed by a much larger number of children than many previous items.

Problem Solving Skills

In item V-2 which required the child to match ten objects on a one to one basis the revised manual instructs the examiner to create a row of ten paper clips. In the field test which asked for rows to be constructed out of colored pegs, many examiners found that the children became so absorbed in the

matching of colors that they forgot their original task.

Analysis of the scoring patterns revealed that very few children had difficulty with item V-5 which required them to identify a picture by only seeing a portion of it. For example, a girl was covered except for her legs and the children were required to identify the picture as a girl. A close examination of the scores pointed out that many children who had scores of one and two on the previous several items suddenly were able to score three on this item. It was felt that the pictures shown did not adequately test this goal and for this reason the revised manual uses a slightly revised game.[8]

[8]See Appendix C, Revised Inventory, and Appendix D, Revised Manual.

TABLE III
Total Scores in Field Test

Item No.	One	Two	Three	No answer
I-1	3	7	42	
-2	3	2	47	
-3	0	0	52	
-4	0	4	48	
-5	0	14	38	
-6	0	11	41	
-7	3	10	38	1
-8	6	19	27	
-9	12	19	21	
-10	3	12	36	1
-11	16	5	31	
I-11	0	1	51	
-12	0	0	52	
-3	0	2	50	
-4	4	3	44	1
-5	2	3	47	
-6	0	2	50	
-7	0	0	52	
-8	0	5	47	
-9	0	0	52	
-10	1	2	48	1
-11	0	3	49	
-12	0	16	36	
-13	5	5	41	1
-14	0	5	46	1
-15	3	14	34	1
-16	4	12	35	1
III-1	1	0	50	1
-2	6	9	36	1
-3	6	11	33	2
-4	0	11	40	1
-5	2	5	43	2
-6	5	11	34	2
-7	2	3	45	2
-8	19	19	11	3
-9	15	6	30	1
-10	3	5	43	1
-11	4	11	36	1
IV-1	5	4	41	2
-2	2	1	47	2
-3	8	11	31	2
-4	2	25	23	2
-5	3	9	38	2
-6	13	20	16	3
-7	2	9	40	1
-8	0	5	44	3
-9	9	25	15	4
-10	19	13	18	2
-11	3	5	42	2

TABLE III

Total Scores in Field Test

Item No.	One	Two	Three	No Answer
IV-12	1	6	43	2
-13	3	10	37	2
V-1	2	4	42	4
-2	9	5	34	4
-3	15	9	25	3
-4	5	14	29	4
-5	2	6	41	3
-6	13	6	29	4

TOTAL NUMBER OF TESTS GIVEN WAS 52

Development of a Curriculum

All teachers and aides indicated that now that their attention had been directed towards individual intellectual growth they were eager for suggestions for classroom activities that would further stimulate growth. Need for suggestions was felt highest with those children whose experiential background left them far behind in the development of intellectual skills and also with those children who had mastered all the skills in the inventory and needed new challenges. In response to these feelings a follow-up curriculum was designed.[9] After the teacher has completed an Inventory with a child it is suggested she study it carefully to note those skill areas within which she feels he needs further stimulation and growth. By turning to the pages in the Curriculum which deal with those particular skills she will find each one reworded as a behavioral goal with activities which she can introduce in her classroom to stimulate growth in the child who has not mastered the concept, the child who has partial mastery, and the child who has complete mastery. Suggestions are also included for structuring the classroom around the use of the Inventory with all children. All activities directly involve the child and use equipment which the teacher can obtain quite inexpensively.

Conclusion and Implications

It is felt with the implementation of an inventory and curriculum which are based on intellectual theory but written in the simple terms of behavioral goals, the teacher of

[9] See Appendix E

young children will be better prepared to stimulate their growth. All examiners used in the field test commented on the value of the Inventory in drawing their attention to the individual growth of a particular child. This, they felt, would truly help them to individualize their teaching programs. One examiner reported that "in almost all instances we would pick up specific strengths and weaknesses that we had observed in more general terms--for instance, the effect that short attention span had on problem solving or mental skills." Examiners felt that the Inventory drew their attention to specific areas of the child's growth which had previously been overlookied.

With the exceptions which have already been noted and on which changes in the Inventory were based, examiners reported that children enjoyed the Inventory and were proud of what they could accomplish. Also mentioned was enjoyment of a one to one situation by both the examiner and the child.

All examiners felt that they would like to use the Inventory with their entire class.

In the new and growing field of child development and preschool education there are few, if any, inventories which enable the teacher to gather a composite picture of the intellectual skills of each child in her classroom. Implementation of an inventory, such as the one developed here, will give additional guidelines as to which children would benefit the most from some of the excellent preschool curricula being developed today. Information which the Inventory gives

the teacher in regards to a particular child may indicate that she need to alter the daily experiences in her room to provide more opportunities for him to grow at his own level.

In order to further develop the Inventory and make it a more reliable observer for the teacher much more field testing needs to be done. Obtaining the scores of large numbers of children will help to further stabilize the sequences of skills within the Inventory. Comparisons of scores obtained from children who have grown up in homes supported by different levels of incomes would give the teacher additional information and guidance as she works with her children. The Inventory also needs to be expanded so that it more effectively deals with all three and five year old children.

It is hoped that the Inventory will provide for those teachers in the field who are concerned about establishing optimal situations for their children a valuable tool for determining classroom curriculum and experiences.

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APPENDICES

APPENDIX A

INITIAL INSTRUMENT

INVENTORY OF INTELLECTUAL SKILLS

Appendix A

Initial Instrument

Inventory of Intellectual Skills

INVENTORY OF INTELLECTUAL SKILLS

CHILD'S NAME_____

CHILD'S BIRTHDATE_____

DATE OF TEST_____AGE OF CHILD_____YRS._____MOS.

NAME OF SCHOOL_____

EXAMINER_____

I. MOTOR SKILLS

		1	2	3
I-1	Child can follow an object with his eyes.			
I-2	Child can follow a line with his finger.			
I-3	Child can string beads.			
I-4	Child can control a crayon and pencil.			
I-5	Child can copy a circle.			
I-6	Child can cut on a straight line.			
I-7	Child can copy a cross.			
I-8	Child can copy a square.			
I-9	Child can copy a triangle.			
I-10	Child can point to top, bottom, front, back, right side up and down.			
I-11	Child is beginning to print his own name.			

II. PERCEPTUAL SKILLS

		1	2	3
II-1	Child can match colors.			
II-2	Child can match forms.			
II-3	Child can compare objects by size.			
II-4	Child can discriminate between common sounds.			
II-5	Child can identify common sounds.			
II-6	Child can match objects by touch.			
II-7	Child can match objects.			
II-8	Child can match shades of the same color.			
II-9	Child can match patterns which are alike.			
II-10	Child can match a picture of an object to the object.			
II-11	Child can match numerals.			
II-12	Child can match letters.			
II-13	Child can reproduce a pattern.			
II-14	Child can put together a simple puzzle.			
II-15	Child can discriminate between conflicting visual stimuli.			
II-16	Child can recognize his first and last name.			

III. LANGUAGE SKILLS

		1	2	3
III-1	Child can recognize objects by function and name.			
III-2	Child can name eight basic colors.			
III-3	Child can communicate his ideas in both simple and complex sentences.			
III-4	Child is using correct pronunciation of sounds.			
III-5	Child is using prepositions correctly.			
III-6	Child can describe an object using two descriptive phrases.			
III-7	Child can use oral context to determine the truth of statements.			

		1	2	3
III-8	Child can name letters.			
III-9	Child can name numerals from one to ten.			
III-10	Child knows the names for everyday objects and uses them.			
III-11	Child can give personal information.			

IV. MEMORY SKILLS

		1	2	3
IV-1	Child can find an object after listening to a description of it.			
IV-2	Child can recall an object that is shown him and then hidden.			
IV-3	Child can determine which object is removed from a group when he isn't looking.			
IV-4	Child can count to 19 by rote.			
IV-5	Child can repeat simple songs, finger-plays and poems.			
IV-6	Child can reconstruct a sequence from memory.			
IV-7	Child can recall instructions for three tasks and do them.			
IV-8	Child can label something using his sense of touch only.			
IV-9	Child can reproduce a simple design from memory.			
IV-10	Child can reproduce a simple tapping sequence.			
IV-11	Child can repeat a sequence of four numbers.			
IV-12	Child can repeat a sentence.			
IV-13	Child can answer questions about a story.			

V. PROBLEM SOLVING SKILLS

		1	2	3
V-1	Child can sort objects on the basis of a single property.			
V-2	Child can match ten objects on a one to one correspondence.			
V-3	Child can arrange 3-4 objects in a series or sequence.			
V-4	Child can comprehend number groups from one to three.			
V-5	Child can determine what a simple object is after seeing only a part of it.			
V-6	Child can point to the first, last, and middle positions in a row of objects.			

APPENDIX B

QUESTIONNAIRE

Appendix B

Questionnaire

Your Job: teacher _____ grade level _____
aide _____
other _____(please list)

How long have you worked with children? _____

Did you enjoy using this Inventory with a child? yes__ no__
Why or why not?

Do you feel you learned anything new about the child you worked with? Yes__ No__ Why or why not?

Did you find the Inventory easy to understand? Yes__ No__
Why or why not?

Did you have trouble understanding any particular game? Yes__
No__ Did you mark the spot? Yes__ No__

Did you find any games that the children did not like or want to do? Yes__ No__ Did you mark the spot? Yes__ No__

Did you feel that any of the games are too hard for this age child? Yes__ No__ Which ones?

Did you feel that there were any intellectual skills missing?
Yes__ No__ What were they?

Did you have a hard time gathering the equipment that you needed for the Inventory? Yes__ No__

Do you have any suggestions for the way the Inventory could be put together so that it would be easier to use?

Would you like to use this Inventory with the rest of your children? Yes__ No__ Why or why not?

Would you like to have the curriculum games and ideas that are mentioned in the introduction to use in your classroom with your children? Yes__ No__

Do you have any suggestions, ideas, or criticisms which would help to improve this Inventory?

(The original questionnaire was placed on two sheets of paper with sufficient room for examiners to answer questions.)

APPENDIX C

REVISED INVENTORY

INVENTORY OF INTELLECTUAL SKILLS

Appendix C

Revised Inventory

INVENTORY OF INTELLECTUAL SKILLS

CHILD'S NAME_____

CHILD'S BIRTHDATE_____

DATE OF TEST_____AGE OF CHILD_____YRS._____MOS.

NAME OF SCHOOL_____

NAME OF EXAMINER_____

RESEARCH EDITION

I. MOTOR SKILLS

		1	2	3
I-1	Child can follow an object with his eyes.			
I-2	Child can follow a line with his finger.			
I-3	Child can point to top, bottom, front, and back.			
I-4	Child can string beads.			
I-5	Child can control a crayon and pencil.			
I-6	Child can copy a circle.			
I-7	Child can cut on a straight line.			
I-8	Child can copy a cross.			
I-9	Child can copy a square.			
I-10	Child can copy a triangle.			
I-11	Child is beginning to print his own name.			

II. PERCEPTUAL SKILLS

		1	2	3
II-1	Child can match objects.			
II-2	Child can match a picture of an object to the object.			
II-3	Child can match colors.			
II-4	Child can match forms.			
II-5	Child can match objects by touch.			
II-6	Child can match patterns which are alike.			
II-7	Child can compare objects by size.			
II-8	Child can identify common sounds.			
II-9	Child can put together a simple puzzle.			
II-10	Child can reproduce a pattern.			
II-11	Child can match numerals.			
II-12	Child can match letters.			
II-13	Child can recognize his first and last name.			
II-14	Child can discriminate between conflicting visual stimuli.			

III. LANGUAGE SKILLS

		1	2	3
III-1	Child can recognize objects by function and name.			
III-2	Child knows the names for everyday objects and uses them.			
III-3	Child is using correct pronunication of beginning sounds.			
III-4	Child can give personal information.			
III-5	Child can name basic colors and shapes.			
III-6	Child is using prepositions correctly.			
III-7	Child can communicate his ideas in both simple and complex sentences.			
III-8	Child can describe an object using two descriptive phrases.			

		1	2	3
III-9	Child can use oral context to complete statements.			
III-10	Child can name numerals from one to ten.			
III-11	Child can name upper and lower case letters.			
III-12	Child can count to twenty by rote.			

IV. MEMORY SKILLS

		1	2	3
IV-1	Child can recall an object which is shown him and then hidden.			
IV-2	Child can repeat a sentence.			
IV-3	Child can repeat a sequence of four numbers.			
IV-4	Child can recall instructions for three tasks and do them.			
IV-5	Child can determine which object is removed from a group when he isn't looking.			
IV-6	Child can reconstruct a sequence from memory.			
IV-7	Child can answer questions about a story after listening to it.			
IV-8	Child can reconstruct a simple design from memory.			
IV-9	Child can reproduce a simple clapping pattern.			

V. PROBLEM SOLVING SKILLS

		1	2	3
V-1	Child can sort objects on the basis of a single property.			
V-2	Child can match ten objects on a one to one correspondence.			
V-3	Child can comprehend number groups from one to three.			
V-4	Child can arrange four objects in a series			
V-5	Child can point to first, last & middle.			
V-6	Child can determine what is missing from a common object.			

TEACHER OBSERVATION:

CONCLUSIONS AND PLAN FOR FUTURE WORK WITH THE CHILD:

APPENDIX D

REVISED MANUAL

INVENTORY OF INTELLECTUAL SKILLS

Appendix D

Revised Manual

INVENTORY OF INTELLECTUAL SKILLS

AN OBSERVATION GUIDE

RESEARCH EDITION

Kathryn J. Cole

INVENTORY OF INTELLECTUAL SKILLS

There has been much emphasis in recent years on the level of intellectual growth that a child should have reached in order to have success with the tasks he meets in kindergarten and first grade. Many of our nation's children, especially those from low income homes, are entering school inadequately prepared for the challenges they will meet there. This inadequacy is usually due to few opportunities for experiencing the world in their early years of life. This Inventory was designed to include those intellectual skills that the majority of children have mastered upon entrance to kindergarten (approximately five years of age). It can be used by the kindergarten teacher to direct her observation to the individual strengths and weaknesses of her children. This knowledge will be of great value in helping her to direct her teaching towards meeting the individual needs of all her children. The Inventory can also be used by the teacher of the four year old child to determine how best she can help him establish foundations for later learning. Teachers of remedial classes may find that the Inventory directs their observation to early skills of intellectual growth that their students have not yet mastered.

All growth occurs in a pattern or sequence. The moth must appear before the butterfly; the tadpole before the frog. Children, too, must sit and stand before they can walk; learn to control the pencil before they write. This Inventory directs the teacher's observation to intellectual growth in the areas of motor, perception, language, memory and problem solving skills. As it is designed to cover a particular period in the growth of the child, the teacher may find a child achieving mastery in many of the skill areas at the same time. However, as the teacher works with the child from the beginning to the end of the Inventory and from the first to the last task within each category she will be giving the child tasks to do which are more and more complex.

INTRODUCTION

The primary purpose of this inventory is to direct a teacher's observation to the specific skills of intellectual growth that a four or five year child has mastered. The inventory is made up of 52 different games which the teacher plays with the child. Games are presented in the inventory in a sequential order, but the teacher may wish to vary the order as she works with a particular child. Filling in scoring box 1 after a game indicates that the child does not have mastery of a skill; score box 2 indicates partial mastery; and score box 3 indicates complete mastery. Directions for administering and scoring the inventory are found in the teacher's manual. Most children will need two or three sessions with the teacher to finish the inventory.

Before beginning the inventory the teacher will need to collect materials from her classroom. The equipment necessary for each game is listed in the manual and should be collected before the teacher begins observation with any child.

INVENTORY OF INTELLECTUAL SKILLS

I. MOTOR SKILLS

I-1 CHILD CAN FOLLOW AN OBJECT WITH HIS EYES

EQUIPMENT: Pencil with tack stuck in side of eraser

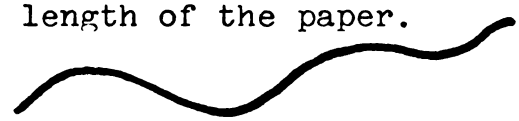
GAME: Say, "Do you see the tack that I have put in the end of this pencil? I am going to move it back and forth and I want you to watch where it goes with your eyes, but keep your head very still!" Move the pencil in a half circle about 1½ feet in front of the child's face. If the child moves his head repeat - "keep your head still -- move only your eyes!" Bring the pencil into the child's nose -- his eyes should not cross until your pencil is about four inches from it.

SCORING:
1-Child moves his head to follow the pencil
2-Child follows pencil with jerky eye movements
3-Child follows pencil with smooth movements

I-2 CHILD CAN FOLLOW A LINE WITH HIS FINGER

EQUIPMENT: Paper, crayon, pencil

GAME: Say, "I am going to draw a line on this paper and I want you to put your finger at the start of it and make your finger go along the line all the way to the end." With the crayon draw a line that is somewhat curved the full length of the paper.



After the child has done this draw a similar line with the pencil on the paper and repeat the game.

SCORING:
1-Child can follow the line only with your help
2-Child follows line with difficulty or can follow the wider line of the crayon, but not the pencil
3-Child can stay on both lines from beginning to end

I-3 CHILD CAN POINT TO TOP, BOTTOM, FRONT AND BACK

EQUIPMENT: None

GAME: Say, "Show me where your bottom is. Where is your top? Your front? Your back?" Credit either feet or "bottom" as correct.

SCORING:
1-Child can not point to anything you ask
2-Child can point to three locations
3-Child can point to all locations

I-4 CHILD CAN STRING BEADS

EQUIPMENT: Bead lace, 4 large beads, 4 small beads

GAME: Give the child the lace and large beads to string. When he has finished with them give him the smaller beads. Watch to see if he must hunt for the hole to put the string in or if he can string the beads with ease.

SCORING:
1-Child is unable to string beads
2-Child is able to string large beads only
3-Child is able to string all beads

I-5 CHILD CAN CONTROL A CRAYON AND A PENCIL

EQUIPMENT: Paper, crayon, and pencil

GAME: Say, "I am going to draw a line on this paper with my crayon. When I am finished I will give it to you and you can draw one just like mine." Draw a straight line on the paper. Repeat with pencil.

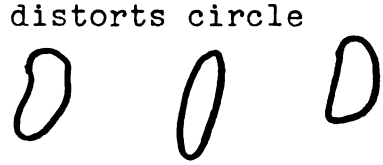
SCORING:
1-Child holds pencil awkwardly -- straight up and down with hand as a fist
2-Child holds pencil with all fingers encircling and at a slant
3-Child takes pencil with three fingers near the tip and thumb on top with pencil slanted slightly upward

I-6 CHILD CAN COPY A CIRCLE

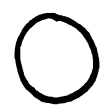
EQUIPMENT: Paper with a 2 inch diameter circle already drawn on it, pencil 

GAME: Ask the child to make two circles like the one on the paper.

SCORING: 1-Child can not copy circle
2-Child distorts circle



3-Child copies circle correctly



I-7 CHILD CAN CUT ON A STRAIGHT LINE

EQUIPMENT: Paper with a line drawn across the middle of it, pair of children's scissors

GAME: Ask the child to cut the paper right on the line. If he has difficulty with the game give him another piece of paper to try a second time.

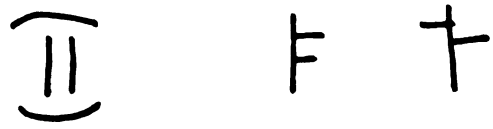
SCORING: 1-Child is unable to use scissors or cut
2-Child can use scissors, but is awkward and can not cut on line
3-Child cuts on the line with ease and holds scissors comfortably. Many children will still be placing first finger in the second hole of the scissors instead of the second finger. This is acceptable.

I-8 CHILD CAN COPY A CROSS

EQUIPMENT: Paper with a 2 inch cross already drawn on it, pencil +

GAME: Child is asked to make two copies of the cross.

SCORING: 1-Child can not copy cross
2-Child copies cross imperfectly



3-Child copies cross with ease

I-9 CHILD CAN COPY A SQUARE

EQUIPMENT: Paper with a $2\frac{1}{2}$ square already drawn on it, pencil

GAME: Child is asked to make two copies of the square.

SCORING: 1-Child can not copy square
2-Child copies square imperfectly

3-Child copies square with ease

I-10 CHILD CAN COPY A TRIANGLE

EQUIPMENT: Paper with a 2 inch triangle already drawn on it, pencil

GAME: Child is asked to make two copies of the triangle

SCORING: 1-Child can not copy triangle
2-Child copies triangle imperfectly

3-Child copies triangle with ease

I-11 CHILD IS BEGINNING TO PRINT HIS OWN NAME

EQUIPMENT: Paper, pencil

GAME: Ask the child to print his own name.

SCORING: 1-Child can not print his name
2-Child attempts to print his name but letters are reversed, in the wrong order, left out or other mistakes are made
3-Child can print his first name correctly in capitals or small letters

II. PERCEPTUAL SKILLS

II-1 CHILD CAN MATCH OBJECTS

EQUIPMENT: Two each of the following: small blocks, crayons, scissors, beads, drinking glasses, and pencils

GAME: Place all the items on the table. Tell the child that you are going to touch one and you want him to touch one that is just like it. Go through all the items.

SCORING:
1-Child can not match items
2-Child makes one mistake
3-Child matches all items correctly

II-2 CHILD CAN MATCH A PICTURE OF AN OBJECT TO THE OBJECT

EQUIPMENT: One each of the following: chair (the one the child is sitting on), book, small glass, and scissors. Cut the following pictures from a magazine or catalogue and mount on construction paper: pair of shoes, chair, glass, book, and scissors. Mount on separate sheets of construction paper.

GAME: Place all the items on the table except the shoes and chair. Hold one picture up at a time and ask the child to find the same item either on the table or in the room.

SCORING:
1-Child is unable to match the pictures to the objects
2-Child makes one mistake
3-Child matches all the pictures and objects correctly

II-3 CHILD CAN MATCH COLORS

EQUIPMENT: Cut two 2½ inch squares of each of the following colors: red, orange, yellow, green, blue, purple, brown, and black

GAME: Place eight of the color cards on the table and keep the matching set in your hand. Ask the child to point to the card on the table which is the same color as the one you are holding. Go through all the cards in your hand showing them one at a time to the child.

SCORING:
1-Child has two or more errors
2-Child has one error
3-Child matches all the cards correctly

II-4 CHILD CAN MATCH FORMS

EQUIPMENT: Cut 3 of the following: 2½ inch square, 2½ inch diameter circle, 2 inch triangle, 1 inch by 2½ inch rectangle and 3 inch diamond

GAME: Keep one set of form cards in your hand. Arrange the other two sets on the table--one set in the normal position and the other in an altered position. Tell the child that you want him to find two shapes like the one that you show him. Go through all the cards in your hand showing them to him one at a time. If he can not find the shape in the altered position ask him if he sees another one besides the one that he is pointing to.

SCORING:
1-Child is unable to match forms
2-Child is able to match forms in normal position only
3-Child is able to match forms in both positions

II-5 CHILD CAN MATCH OBJECTS BY TOUCH

EQUIPMENT: Two each of the following: small blocks, scissors, crayons, large beads, paper clips, and one paper bag.

GAME: Place one block, scissors, crayon, bead, and paper clip in the bag before the child arrives. Talk to the child about the remaining items as you place them on the table. Tell him that you want him to find some things just like these inside the paper bag that you have without looking inside it! Point to one item on the table and then instruct the child to look at you while he feels inside the bag for it and draws it out. Continue through all the items.

SCORING:
1-Child can not match the items
2-Child makes one mistake
3-Child matches all items correctly

II-6 CHILD CAN MATCH PATTERNS WHICH ARE ALIKE

EQUIPMENT: Ten 3 by 5 inch index cards. Make two each of the following: two index cards which are plain; two index cards with dots on them; two index cards with lines on them; two index cards with small flowers on them; and two index cards with checks on them.

GAME: Hold one set of cards in your hand and spread the others out on the table. Tell the child to point to the one on the table that is just like the one you are holding in your hand. Go through the cards one at a time.

SCORING:
1-Child is unable to match patterns
2-Child makes one mistake
3-Child matches all patterns correctly

II-7 CHILD CAN COMPARE OBJECTS BY SIZE

EQUIPMENT: Cut six squares from construction paper. Make one each of the following sizes: six inches square, five inches square, four inches square, three inches square, two inches square, and one inch square.

GAME: Place all of the squares in front of the child on the table. Tell him that you want him to find the biggest square and give it to you. When he has done this ask him for the smallest one. Continue to ask for the biggest one and then the smallest one until all the cards are gone.

SCORING:
1-Child is unable to give you any of the squares that you ask for
2-Child is slow or hesitant in giving you the squares or makes two mistakes
3-Child gives you all the squares correctly

II-8 CHILD CAN IDENTIFY COMMON SOUNDS

EQUIPMENT: Bell, small block, paper

GAME: Ask the child to turn his chair around so he can not see what you are doing. After he has done so caution him not to turn around and look until after he hears a noise. Take the bell and ring it behind your back. When he turns around ask him what he has heard. If he turns around while you are ringing the bell remind him that he is not to turn around until you are finished and practice with the bell again. When you are sure that he knows what you mean make the following sounds:

- clap your hands three times
- rip a piece of paper behind your back
- stamp your feet four times
- drop a block on the floor behind your chair
- whistle

SCORING:
1-Child has two or more errors
2-Child has one error
3-Child recognizes all sounds

II-9 CHILD CAN PUT TOGETHER A SIMPLE PUZZLE

EQUIPMENT: Standard wooden preschool puzzle with 7-10 pieces

GAME: The child is directed to take the puzzle apart and remake it.

SCORING:
1-Child is frustrated by the puzzle and you must place pieces in position for him
2-Child can do puzzle but asks you questions about location of pieces and needs your help
3-Child can do puzzle easily by himself

II-10 CHILD CAN REPRODUCE A PATTERN

EQUIPMENT: Color cards from II-3

GAME: Give the child one set of color cards and keep the other for yourself. Tell the child that you are going to put some cards on the table and you want him to put the same cards from his pile right below yours. Take three cards from your pile and make a row with them on the table. Instruct the child to make a similar row. When this has been done return his cards to him and take yours back. Make a row of five cards and have him make an identical row.

SCORING:
1-Child is unable to match your cards
2-Child is able to match small row only
3-Child matches both rows correctly

II-11 CHILD CAN MATCH NUMERALS

EQUIPMENT: Twenty 3 by 5 index cards. Write one numeral on each card. Use numerals from one to ten and make two sets.

GAME: Place one set of numeral cards on the table in random order in a position so they are clearly seen by the child. Hold the remaining set in your hand and hold up the cards one by one. Ask the child to point to the card on the table which is identical to the one you are holding.

SCORING:
1-Child can not match the numerals
2-Child makes one or two mistakes
3-Child matches all the numerals correctly

II-12 CHILD CAN MATCH LETTERS

EQUIPMENT: Seven 3 by 5 index cards. Place one letter on each card. Make two cards for each of the following letters: d, b, p, q, g, m, and n. **Make the letters a good size.**

GAME: Place one set of the letter cards in a straight row in front of the child in the following order: d, b, p, q, g, m, n. Hold the remaining set in your hand and show the child one card at a time. Ask him to point to the card on the table that is like the one you are holding. Be sure to hold the cards up in a different order than they are on the table.

SCORING:
1-Child is unable to match letters
2-Child makes one or two mistakes
3-Child matches all letters correctly

II-13 CHILD CAN RECOGNIZE HIS FIRST AND LAST NAME

EQUIPMENT: A printed list of all the first names of the children in the class and another list which has the first and last names of all the children. (Approximately 15 names)

GAME: Show the child the list with first names only and ask if he can find his name. If he has trouble concentrating point to the first name and ask if it is his. Continue down the list. Repeat with first and last names.

SCORING:
1-Child is unable to find his name
2-Child can find his first name only
3-Child recognizes his first and last names

II-14 CHILD CAN DISCRIMINATE BETWEEN CONFLICTING VISUAL STIMULI

EQUIPMENT: Two 8½ by 11 pieces of manila paper. On one draw several different size circles and intersperse different shapes and forms (ovals, figure eights, crescents, etc.) among them. On the second sheet draw several different size squares (using a ruler to be certain that they are square) and intersperse several objects (rectangles, triangles, octogons, etc.) among them.

GAME: Place card with circles in front of the child. Ask him to show you a circle on it. When he does so take a crayon and draw a line through it. Tell him that you want him to find all the rest of the circles on the card and to the same thing to them. Repeat with card with squares. Cards may be prepared for use by several children by mounting them on cardboard and covering with clear contac which crayon can be erased from with a tissue.

SCORING:
1-Child is unable to locate the shapes
2-Child misses two or more shapes between both cards
3-Child locates all the shapes

III. LANGUAGE SKILLS

III-1 CHILD CAN RECOGNIZE OBJECTS BY FUNCTION AND NAME

EQUIPMENT: Book, glass, crayon, bell, scissors

GAME: Place all the objects on the table in front of the child and ask him the following:
- Show me the one that you drink from
- Show me the crayon
- Show me what you cut paper with
- Show me the bell
- Show me the glass
- Show me the one that you read
- Show me the one that makes a noise
- Show me the book
- Show me the one that you draw with
- Show me the scissors

SCORING:
1-Child makes two or more mistakes
2-Child makes one mistake
3-Child points to all items correctly

III-2 CHILD KNOWS THE NAMES FOR EVERYDAY OBJECTS AND USES THEM

EQUIPMENT: None

GAME: Say, "I will touch some things in our room and I want you to tell me what they are." Touch the following and wait after each one for the child to identify it: chair, table, crayon, shoe, floor, paper bag, light switch or light, door, paper, and pencil.

SCORING:
1-Child can not name two or more of the items
2-Child misses one of the items
3-Child gets all of the items correct

III-3 CHILD IS USING CORRECT PRONUNCIATION OF BEGINNING SOUNDS

EQUIPMENT: None

GAME: Ask the child to say the following words after you: monkey, nail, pig, house, window, boat, cat, girl, fork, dog, kite, church, share, suit

SCORING:
1-Child mispronounces three or more sounds
2-Child mispronounces two sounds
3-Child pronounces all sounds correctly

III-4 CHILD CAN GIVE PERSONAL INFORMATION

EQUIPMENT: None

GAME: Ask the child the following questions:
What is your name? (first and last)
How old are you? (ask how many if shows fingers)
Are you a boy or a girl?
Where do you live? (credit street name alone, city name alone or both)
Point to your nose, eyes, ears, tummy, elbow, chin, fingers, knee, heel

SCORING:
1-Child misses two or more answers
2-Child misses one of the first three questions or fails to point to two of the parts of his body
3-Child answers all parts of the question correctly or misses one body part

III-5 CHILD CAN NAME THE BASIC COLORS AND SHAPES

EQUIPMENT: Color cards from II-3 and Shape Cards from II-4

GAME: Hold the cards in front of the child one at a time and ask him to name either the color or the shape. Record those he can not do.

SCORING:
1-Child has two or more mistakes
2-Child has one mistake
3-Child names all correctly

III-6 CHILD IS USING PREPOSITIONS CORRECTLY

EQUIPMENT: None

GAME: Say, "I am going to tell you some things to do."

Stand next to the table.
Get under the table.
Stand behind your chair.
Stand in front of your chair.
Put your hand over your head.
Put your finger on your nose.
Put your finger in your ear.

SCORING:
1-Child needs to be helped with three or more directions
2-Child needs to be helped with one or two directions
3-Child can complete all the directions by himself

III-7 CHILD CAN COMMUNICATE HIS IDEAS IN BOTH SIMPLE AND COMPLEX SENTENCES

EQUIPMENT: A magazine or classroom picture which has enough in it so that the child could tell you a lot about it

GAME: Say, "I have brought a picture for you to look at. What do you see in it?" If this brings only one word responses or no response at all ask the child to tell you something about the picture.

SCORING:
1-Child will not talk or responds with one word sentences only and points to objects in the picture
2-Child responds in sentences to the picture only after you ask him several questions about it
3-Child verbalizes freely about the picture and tells you two or more things he sees happening in it in complete sentences

III-8 CHILD CAN DESCRIBE AN OBJECT USING TWO DESCRIPTIVE PHRASES

EQUIPMENT: Pencil, bell, block

GAME: Practice item: put the pencil on the table. Say, "What can you tell me about this?" If the child makes only one response or no responses at all ask such questions as:
What is it called?
What is it made out of?
What do we do with it?
Remove the pencil and place the bell on the table. Repeat, "What can you tell me about this?" Do not give the child any additional help other than to ask what else he can tell you. Remove when he has nothing else to say and repeat with the block.

SCORING:
1-Child can tell you nothing about the two items
2-Child can tell you one thing about each item
3-Child can tell you at least two things about one item

III-9 CHILD CAN USE ORAL CONTEXT TO COMPLETE STATEMENTS

EQUIPMENT: None

GAME: Say, "I am going to say some words and I want you to listen carefully and finish what I have said."

Children like to eat _____.
Animals all have _____.
We can ride in a _____.
In school we _____.

SCORING:
1-Child can not finish sentence.
2-Child finishes sentence with words that do not make sense or can not do all sentences
3-Child finishes all sentences adequately

III-10 CHILD CAN NAME NUMERALS FROM ONE TO TEN

EQUIPMENT: Numeral cards from II-11

GAME: Mix the order of one set of cards from 1 to 10 so they are not in order. Hold them up one at a time and have the child identify them. Note those that he can not on form.

SCORING:
1-Child must have prompting to name numerals
2-Child can name all the numerals except a few
3-Child can name all the numerals

III-11 CHILD CAN NAME UPPER AND LOWER CASE LETTERS

EQUIPMENT: Two sheets of lined paper. Print on one the alphabet in capital letters and on the other the alphabet in lower case letters. Use marker or heavy pencil so that the letters are easy to see.

GAME: Place one paper at a time in front of the child and tell him you want him to name the letters as you touch them.

SCORING:
1-Child does not know the names of the letters
2-Child knows about half of the letters
3-Child knows all of the letters

III-12 CHILD CAN COUNT TO TWENTY BY ROTE

EQUIPMENT: None

GAME: Say, "Can you count for me?" If the child has difficulty in realizing what you want him to do begin for him with one, two.....

SCORING: 1-Child can not count or counts to 5 or less
2-Child can count but not all the way to 20
3-Child can count to 20

IV. MEMORY SKILLS

IV-1 CHILD CAN RECALL AN OBJECT WHICH IS SHOWN HIM AND THEN HIDDEN

EQUIPMENT: Two each of the following: paper clip, rubber band, large safety pin, and small bead

GAME: Place one of each item on the table in front of the child and name them with him so that you are sure that he is familiar with them. Tell him that you are going to cover them up with a piece of paper and then show him something that you have in your hand. After he has seen the one in your hand remove it and have him take the piece of paper off the objects and locate the one you were holding. Repeat with three different objects.

SCORING:
1-Child misses on two or more trials
2-Child misses on one trial
3-Child gets all correct

IV-2 CHILD CAN REPEAT A SENTENCE

EQUIPMENT: None

GAME: Ask the child to repeat the following sentences after you:
Mother and I went to the store.
Tommy made a picture with his crayons.
The dog lay down and ate his bone.

SCORING:
1-Child can not say any sentence without a mistake
2-Child can repeat at least two sentences with only one mistake in each
3-Child can repeat at least two sentences correctly

IV-3 CHILD CAN REPEAT A SEQUENCE OF FOUR NUMBERS

EQUIPMENT: None

GAME: Ask the child to say the following numbers after you:
5-3-4-2
6-9-4-8
3-7-4-1

SCORING: 1-Child misses two numbers in each group
2-Child misses one number in each group
3-Child has at least two series correct

IV-4 CHILD CAN RECALL THE INSTRUCTIONS FOR THREE TASKS AND DO THEM

EQUIPMENT: None

GAME: Say, "Listen carefully. I am going to tell you some things to do and I want you to do them."
Push your chair under the table, walk to the door and jump up and down.
Put your hands on your head, walk around the table, and sit down.

SCORING: 1-Child can only do one thing in each group
2-Child can only do two things in each group
3-Child can do at least one group perfectly

IV-5 CHILD CAN DETERMINE WHICH OBJECT IS REMOVED FROM A GROUP WHEN HE ISN'T LOOKING

EQUIPMENT: Paper clip, rubber band, small bead, safety pin

GAME: Place the objects on the table and name them with the child. Tell him that you want him to look at them carefully for when he closes his eyes you are going to take one away and he must tell you which one. Remind him to study if he forgets. Repeat 3 times. taking away a different object each time.

SCORING: 1-Child misses two or more times
2-Child misses one time
3-Child is correct all three times

IV-6 CHILD CAN RECONSTRUCT A SEQUENCE FROM MEMORY

EQUIPMENT: Color cards from II-3

GAME: Select ten cards, two each of five different colors, and give one set to the child. Tell the child that you are going to put some colors in a row on the table and that you want him to study them because you are going to cover them up with paper and then you want him to make a row just like yours. Remind the child to study the cards. Make a row of three colors and after the child has duplicated this row repeat two more times with different colors. Allow the child to correct his row when you uncover yours if his is incorrect. Count to five while the child studies your row and then cover it up while he makes his.

SCORING:
1-Child can not repeat your rows
2-Child repeats two of the three colors in your row or mixes the order of the colors
3-Child can reproduce two of your rows correctly

IV-7 CHILD CAN ANSWER QUESTIONS ABOUT A STORY AFTER LISTENING TO IT

EQUIPMENT: None

GAME: Tell the child the following story:

"Sally and her mother went to the store. They got some ice cream and cookies to eat. They brought the ice cream and cookies to their house."

Ask the child:

Where did Sally and her mother go first?
(store)

What did they get at the store?
(ice cream and cookies)

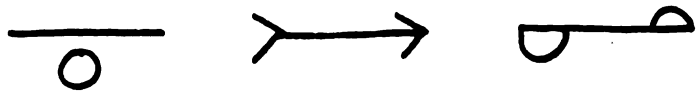
What did they give the man at the store?
(money)

Where did they take the ice cream and cookies?
(home)

SCORING:
1-Child has three or more errors
2-Child has one or two errors
3-Child answers all questions correctly

IV-8 CHILD CAN RECONSTRUCT A SIMPLE DESIGN FROM MEMORY

EQUIPMENT: Three index cards with one of the following drawn on each:



GAME: Hold one of the design cards in front of the child and tell him to study it carefully. Hide it and have him draw it on a piece of paper.

SCORING:
1-Child can not reproduce your designs
2-Child can reproduce two of your designs or parts of each design
3-Child can correctly reproduce all designs

IV-9 CHILD CAN REPRODUCE A SIMPLE CLAPPING PATTERN

EQUIPMENT: None

GAME: Tell the child to listen and to clap his hands just like you do. Clap in the following pattern: Clap one row at a time.

x	x	x
x	xx	x
xx	xx	xx
xx	x	xx

SCORING:
1-Child can not clap as you do
2-Child can clap two of the patterns correctly or part of each pattern correctly
3-Child claps three patterns correctly

V. PROBLEM SOLVING SKILLS

V-1 CHILD CAN SORT OBJECTS ON THE BASIS OF A SINGLE PROPERTY

EQUIPMENT: Beads (4 each: red, blue and green)

GAME: Place all the beads on the table and ask the child to put all the ones that he thinks are alike or the same together. If the child does not seem to understand what you want ask him to show you some beads that are the same. When he does so motion to a spot on the table where he can put them and direct him to divide the rest of the beads in a similar manner. Most children will divide the beads on the basis of color. If the beads you use are also different shapes some children may divide them on the basis of shape. After the child has divided the beads motion to each pile and ask why he put the ones in it together.

SCORING:
1-Child does not understand the task or complete it
2-Child divides the beads correctly, but can not tell you why he did so
3-Child divides the beads correctly and can tell you why he did so

V-2 CHILD CAN MATCH TEN OBJECTS ON A ONE TO ONE BASIS

EQUIPMENT: Box of paper clips

GAME: While the child watches place ten paper clips in a horizontal row on the table. Count each clip as you place it on the table. Give the child the box of clips and ask him to make a row just like yours below it. Place clips in your row about one inch apart.

SCORING:
1-Child can not place clips on the table to match your line
2-Child places clips on the table to match your first and last clip, but does not match the ones in between.
3-Child matches your clips exactly

V-3 CHILD CAN COMPREHEND NUMBER GROUPS FROM ONE TO THREE

EQUIPMENT: Box of paper clips

GAME: Take three paper clips from the box and tell the child that you are going to put some paper clips on the table and you want him to tell you how many there are without counting them. Return the clips to your hand between each of the following:

Place in a row on the table **one at a time**
- one clip
- three clips
- two clips

Drop on table in a random order **one row at a time**
- one clip
- three clips
- two clips

SCORING:
1-Child can not tell you the number in the piles
2-Child can tell you the number only after counting or makes some mistake
3-Child can identify each group correctly

V-4 CHILD CAN ARRANGE FOUR OBJECTS IN A SERIES OR SEQUENCE

EQUIPMENT: Cut from construction paper 4 cardboard squares with the following dimensions: 4 inches square, 2½ inches square, 1½ inches, and ½ inch. Cut 4 rectangles from construction paper with the following dimensions: 6 inches by 2 inches, 4 inches by 2 inches, 2½ inches by 2 inches, and 1½ inches by 1 inch.

GAME: Place one set of sequence cards in front of the child at a time and say the following:

Put these in a row with the smallest at one end and the biggest at the other,

Put these in a row with the tallest at one end and the shortest at the other.

SCORING:
1-Child can not put the items in order
2-Child can put the beginning and ending items in order, but not the middle ones
3-Child can place all four items

V-5 CHILD CAN POINT TO THE FIRST, LAST AND MIDDLE POSITIONS IN A ROW OF FIVE OBJECTS

EQUIPMENT: Five paper clips

GAME: Place the clips in a row on the table. Ask the child to show you the first one, the last one and the middle one.

SCORING: 1-Child does not know the positions
2-Child knows two of the positions
3-Child knows all of the positions

V-6 CHILD CAN DETERMINE WHAT IS MISSING FROM A COMMON OBJECT

EQUIPMENT: Select good sized pictures from magazines of the following: person, car, animal, and table. Cut the following parts carefully off of each picture: an arm, a wheel, the tail, and a leg.

GAME: Show the pictures to the child one at a time. Ask him to identify the picture and then to look carefully and see if he can find something that is missing in it. When he is finished with each picture supply the missing part.

SCORING: 1-Child can not tell you what is missing
2-Child can only find what is missing in one or two pictures
3-Child can find what is missing in all pictures

APPENDIX E

CURRICULUM GUIDE

INVENTORY OF INTELLECTUAL SKILLS

Appendix E

Curriculum Guide

CURRICULUM GUIDE
INVENTORY OF INTELLECTUAL SKILLS
RESEARCH EDITION

Kathryn J. Cole

How to Use the Curriculum in Your Classroom

The Inventory should be given to each child during the first months of the school year. During this time the teacher can plan her classroom experiences around the social studies and science themes at the back of the Curriculum. After selecting a particular theme which she wishes to emphasize the teacher needs to list clearly those goals which she wishes to reach with her children by the end of the period spent on the theme. While goals are stated for each theme in the Curriculum the teacher may wish to add more or delete some. Once she has accomplished this the next step is to plan one group learning experience related to the theme for each class day. Learning experiences should build on each other from one day to the next. The teacher may use ideas from the Curriculum or add stories, fingerplays, special projects, and ideas of her own. Art projects can be planned to stimulate growth and learning in a particular concept area. Special activities and events such as field trips will increase the children's knowledge of the concepts being taught.

Lesson Plan Format

Theme:

Goals:

	Circle or Group Time	Art	Special Project
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			

Inventories should be finished for each child by early January. Each Inventory should be carefully studied to note areas of strength and weakness. By careful observation the teacher should be able to group children according to whether they have mastery in a particular skill area, partial mastery, or no skill at all. While the class may continue to meet one day a week as a whole group to continue development of new themes, the remainder of the week is spent working during group time with small groups of children with similar needs. Tuesdays become the day to work on motor-perceptual skills, Wednesdays the day to work on language skills, Thursdays the day to work on memory skills, and Fridays the day to work on problem solving skills. Although each day would be spent working on a different skill area with all the children, the teacher will be providing experiences to stimulate the individual differences of the children. The teacher draws from the Curriculum each day to plan experiences for the group of children who need an introduction to the skill area, for those children who need practice in the skill area, and for those children who need further challenging. Groups rotate to work with different adults during successive weeks so the teacher may have the benefit of many observations of the children's growth. Additional adults for this type of activity can always be recruited from nearby Churches, service organizations or volunteer bureaus. This Curriculumis only effective as long as the teacher remains very aware of the needs of each child. The child needs to be exposed to new concepts, given practice in their usage, and stimulated to reach further.

Lesson Plan Format

Monday entire group	Theme: Goals: Activities:
Tuesday:	Motor/Perceptual Skills Group 1: (introduction to skills) Group II: (practice with skills) Group III: (further challenges)
Wednesday:	Language Skills
Thursday:	Memory Skills
Friday:	Problem Solving Skills

While lesson plans would be planned on the above format the activities of one day for a particular group should also be written on an index card for the adult who will work with that group. The following information should be included: group name, names of children, activity and how to do, equipment needed and adult assigned to the group.

Motor Skills

I-1 When an object is moved in a path child can follow it with his eyes.

Beginning Activities:

Teacher places a puppet on her hand and directs the child to look at the puppet and then look at another object, to look again at the puppet and to look at a different object in the room. Careful observation to establish that the children's eyes are following the described objects.

Teacher asks the children to count to five while they look at her hand, count to three while they look at the clock, etc.

Teacher directs the child to follow the path of her flashlight with his eyes. Child may also be given a flashlight and directed to follow the teachers light with his own.

Mastering Activities:

Teacher holds a small toy on either side of the child's face and not directly in front of his eyes. Being sure that the child knows the names for each object she directs his vision from one to another by naming them more and more rapidly.

Teacher places small car on a table which is at the eye level of the child and directs him to follow the car as she drives it around the table.

Teacher places small ball in a circular salad mold and directs the child to follow its movement as she makes it go around and around. As skill increases marble may be substituted for ball.

Challenging Activities:

Children sit in a large circle and roll ball between themselves. Throughout game teacher makes verbal comments such as "watch the ball roll to Johnny - now the ball is going to Mary."

Children sit in a group and follow the movements of another child as he walks (skips, runs, etc.) around the room. Other children can call out to the child what he is to do, when he is to stop and to start. Children watch child carefully to see that he does what they want him to.

Teacher instructs children in the making of paper airplanes or purchases wooden gliders. Children are instructed to watch where their airplane goes and get it for another flight.

Motor Skills

I-2 When shown a paper with a curved line on it child can follow it from beginning to end with his finger.

Beginning activities:

Provide papers which have two pictures on them which are connected with a line (for example: a dog and his bone). Instruct the child to go over the line with his finger so that he can bring the dog to his bone. Have several different pictures for a variety of experiences.

Make a long road with straight and curved lines on the floor of the classroom or a table. Give the child a small car and direct him to drive it on the road being careful to not go off the edges.

Draw straight, then curved and angular lines on the blackboard at the child's level. Direct him to follow your line with his finger. If he can not stay on it he will not erase it.

Mastering Activities:

See I-4 Mastering Activities

Challenging Activities:

See I-4 Challenging Activities

Motor Skills

I- 4 When given some beads and some string child can string beads with ease.

Beginning Activities:

There are many toys in the nursery school which can be used to develop good hand-eye coordination. Coordination will come as the child has several opportunities for use of these toys. Some good ones are:

- pegs and peg board
- sewing with needle and yarn on burlap or with sewing cards
- gadget board which has different locks and bolts screwed on it for child to manipulate
- bolt board which has holes drilled into it for several different size bolts and nuts
- clothing board which has sewn or stapled on it for the child to use: hook and eye, snap, button and button hole, small zipper, safety pin and material and ribbon to tie
- commercial shoe to lace or two pieces of fabric stapled to a board with eyelets (available in a sewing store) in them so that the child can lace
- several different types of bottles and jars with tops which the child can take on and off
- yarn and needles (or end of yarn dipped in nail polish) with macaroni, buttons, spools, etc. to string

Mastering Activities:

Mastery in this particular goal comes with furthur practice on the above equipment. The creative teacher can think of many other ways to vary these things for different experiences.

Challenging Activities:

After the child has initially mastered the use of beads, pegs, etc. this equipment can be used to introduce and build other concepts. These will be mentioned when appropriate throughout the curriculum.

Motor Skills

I-5 When asked to draw a picture or write his name, the child can control and use a pencil.

I-6 When shown a circle, cross, square, or triangle, the child can copy it.

I-8

I-9

I-10

Beginning Activities:

The child needs first of all to be provided with several experiences where he can use a crayon or pencil as he wishes. It is impossible to use a tool for a purpose (writing your name) until you have control over it. Children should be permitted to scribble and scrawl to their heart's content for a long time before the teacher gives them any task which directs what they must draw and write.

The outline of shapes may be cut from cardboard and the insides removed. The cardboard shapes can be used as stencils and the child can trace around the inside of them over and over.

Shapes can be cut from sandpaper and mounted on cardboard. The child is encouraged to feel the outline of the shape over and over again with his fingertips.

Mastering Activities:

Visographs can be made by covering the lines and pictures made for I-2 with clear contac paper. The child can draw over the lines with crayon, being careful to stay on them. The contac papers can be erased with a kleenex.

The teacher can draw lines or shapes on the blackboard or paper which the child duplicates after her.

Roads can be made on paper with gradually smaller and curved lines. The child is directed to draw his lines between the two edges of the road.

Challenging Activities:

Strips of cardboard can be covered with simple to complex line designs which are covered with clear contac so that the child may trace over them with a crayon.

The alphabet (large and small letters) can be placed upon a visograph so that the child can trace over them.

Carbon paper and tracing paper can be put over or under pictures for the child to trace with a pencil. Pictures should be composed of a few lines at first.

Motor Skills

I-7 When given a piece of paper with a line drawn on it the child can cut on the line.

Beginning Activities:

The child must have the experience of using scissors just for the sake of using scissors before he can cut out objects or cut on the line. Provide paper or magazines so that he may cut them into any shape that he desires.

As the child begins to have control of the scissors he can add direction to his cutting. The first activity that should be encouraged with a purpose would be to cut straight across papers and cut corners off of papers.

As skill becomes more and more accomplished child should be introduced to cutting curved and angular pieces and paper and then exposed to cutting on the line. Lines should be straight at first and then curved and angular.

Mastering Activities:

Art tables should be set up with several colors and kinds of paper which the child can cut and paste on to another sheet in a collage.

Experiences should be given in cutting things which are a different weight than paper -- cardboard, foil, styrofoam, etc.

Challenging Activities:

When the child has mastered the scissors he can be introduced to more structured art projects which require that he have control of them -- cutting hearts, snowflakes, fringing feathers, etc.

The child can be introduced to the idea of searching through magazines to look for pictures in a category -- ex: foods -- and cut and paste the pictures he finds into a book.

New cutting experiences can be introduced by having the child cut material for a collage or similar project. The teacher should check to see that the material can indeed be cut with the child's scissors before giving it to the child as some fabrics can not be cut with small scissors.

Motor and Perceptual Skills

I-11 When asked to print his own name child is able to.

II-13 When shown a group of five first and last names, child can recognize his own.

Beginning Activities:

Always place the child's name in the upper left hand corner of his work and print it in the same manuscript that he will be first introduced to in your local school system. Be sure that your aide and volunteers know to do this also. Printing his name in the left hand corner will help focus his attention on the left side of the paper and be preparation for reading which always begins at the left. Talk to the child about his name and the letters in it.

Wear name tags in school every day. Talk to the child about his name as you put it on him each morning. Use first and last names and show the child often which is which. As the weeks progress encourage the child to find his own tag each day.

Have place cards or place mats which the children can use for lunch each day with their names on them. Place cards can be made out of putting a slot in four sections of an egg carton and placing a card with the child's name in the slot. The child can paint and decorate the egg carton. The child can make his own place mat by decorating a sheet of paper with crayons, paint, glitter, etc. The paper can be covered with plastic wrap or clear contac.

Mastering Activities:

Each child's first and last name can be printed in rather large letters on a piece of cardboard and covered with clear contac. The child can trace over his name with a crayon and erase it with a paper hankerchief to do again.

The child who is having difficulty in recognizing his name may benefit from having it made from sandpaper letters which are glued to a cardboard so that he may feel their shape.

The child's name can be printed on a cardboard and he can either place tissue paper over it or carbon paper underneath it and trace the letters.

Challenging Activities:

As children become more familiar with their names they can be dismissed from group time or some other activity by the

teacher holding up cards with each child's name on them. When the child recognizes his name he can go.

A group game may introduce children to the difference between their name and others' names. Each child has a name pinned on his front and must look at all the children until he finds his own name. When he does so he can remove it but must wait to pin it on himself until the child whose name he has recognizes it and takes it.

The child is presented with several names which are very similar to his and required to select his own.

Once the child has mastered printing his name he can be asked to put it on his own art work, etc.

Perceptual Skills

II-3 When shown one of the eight basic colors child can point to one that is similar to it.

II-4 When shown a shape child can match it to a similar one.

II-1 When shown an object child can match it to a similar one.

II-3 When shown a shade of a color child can match it to a similar one.

II-10 When shown a pattern child can match it to a similar one.

II-2 When shown a picture child can match it to a similar object.

II-11 When shown a numeral child can match it to a similar one.

II-12 When shown a letter child can match it to a similar one.

Matching projects should be introduced with objects first, then colors, shapes, sizes and remaining items. When a child is first learning to match an item the objects he matches should all be the same except for the quality he is matching. For example, if he is learning to match colors the objects he is matching should be all the same size and shape and differ only in color. As the child masters the initial color matching then the other dimensions can be varied. The following activities can be used to meet any of the above goals. They are followed by specific games for each goal.

Beginning Activities:

Inside a manila folder glue eight small library pockets or pockets made by cutting a business envelope in half. On these pockets paste or draw different objects (colors, numbers, shapes, shades, etc.). Match only one item (ex: all colors) in one folder. Draw or paste identical objects on small index cards. Child places card in the pocket which matches it.

Lotto games similar to the commercial ones can be made from cardboard to meet any of the above goals.

On an 8 by 10 piece of cardboard place two vertical rows of the same objects but in different order. Attach brads or paper fasteners near each object and place a piece of yarn on the fasteners used in one row. Child takes the yarn and winds it around the fastener next to the same object in the other row.

Use 5 by 7 index cards and cut each piece into two pieces using curved or angular lines. On these matching pieces draw or paste the same object so that the child can fit the two of them together either as a puzzle or because they have the same item on them.

A visograph is an item that is covered with clear plastic on which the child may draw and erase and draw again. By making two rows of the same objects but putting them in different order the child can draw lines from the object on the left to a similar object on the right.

Perceptual Skills

II-1 When shown an object the child can match it to a similar one.

II-2 When shown a picture of an object the child can match it to a similar object.

The child must have the experience of working directly with objects before he is required to manipulate pictures and representations of objects. After the child has shown skill at these two levels objects and pictures may be introduced which are the same item, but look different. For example pictures of dolls may be matched which are both dolls but not the identical one.

Perceptual Skills

II-3 When shown one of the eight basic colors the child can point to a similar one.

Beginning Activities:

Match objects which are identical except that they are of different colors. Say to the child "I am going to put this red one here. Can you find one that is just like it and put it here, too?"

Go for a color walk around the room or outside. Give the child a piece of paper the color you are talking about or a paper bag with a piece of the color pasted on it. Either point to or place in the bag all the items you find which are the same color.

Make sets of color chips by placing in an envelope a two inch square of each of the basic eight colors. Have the child place all his chips in front of him and pick up the same one that you are holding.

Mastering Activities:

Introduce objects which are different in more than color.

Have child sort objects, such as buttons, so that he places all that are the same color together.

Challenging Activities:

Hold up color cards in front of the group and have children stand if they are wearing the same color.

Make color strips by placing a series of colored shapes on a long strip of cardboard. Repeat each shape you have drawn on an individual piece of cardboard and have child select those small pieces of cardboard that he needs to create a strip like the orginal one.

Color or paint the individual sections of an egg carton different colors. Give the child small pieces of paper, colored popcorn, colored toothpicks, etc. to sort.

Perceptual Skills

II-3 When shown a shade of a color the child can match it to a similar one.

Place several shades of a color the children know on the flannel board. Ask the children what color the shapes are. Ask if they are all the same color. How are they different? Some are light and some are dark. Separate the light and the dark. Do this with several different colors and several different times.

Place a basic color of fingerpaint on the table for art. While the children are working with it let them add either white or black to the color on their paper and discuss what happens.

Have all the children who are wearing clothing that is the same color stand in front of the group. Are they all wearing the same color? How is it different? Divide them according to those which are the most alike.

Any of the games used to teach matching colors can be adapted for learning to match shades.

Perceptual Skills

II-4 When shown a shape the child can match it to a similar one.

Beginning Activities:

Give each child an envelope in which you have placed the following shapes -- circle, square, triangle, rectangle, diamond. Shapes can be cut out of paper. Have him place the shapes in front of him and hold up the same one that you do.

Cut six inch squares out of heavy cardboard and cut one of the five shapes out of the center of each cardboard square. Put a paper fastener in the middle of each shape so that the child can use this to remove the shape from the cardboard square and replace it there.

Shapes can be introduced with the following story: flannel board

"Once there was a circle. He was round and fat and had no corners. This circle was a happy circle. He loved to play. He could roll around and around like the wheel on our wagon. (pause and demonstrate) He had two other shape friends. One day the friendly circle came rolling along looking for someone with whom to play. Soon he saw one of his friends. Who do you suppose it was? It was his pal, the triangle. The triangle had three corners (count). He, too, liked to play. The triangle said, "What shall we play?" The circle thought a moment. Then he said, "If you stand on one of your corners and I jump on tope of you, we could pretend that we are an ice cream cone!" (demonstrate) Then the triangle said, "If I hop on top of you, we could pretend that we are a clown's head." (demonstrate) Just then the other friend, the square, came sliding over. He had four corners, (count) so you see both the square and the triangle have to slide. They cannot roll like the circle because their sides are straight. They do not have curved sides like the circle. (demonstrate by making all the pieces move.) "May I play too?," asked the square. "Of course," said the circle and the triangle. So the three shapes -- the circle, the square and the triangle -- played together and pretended to be allkinds of things. The square and the triangle pretended to be a house. The square, the circle and the triangle pretended to be a tower. What other things do you think the shapes could be?" This story may also be told using objects for the shapes. The children should be encouraged to experiment with the shapes.

Several different sized shapes can be cut out for the art table so the children can arrange them as they wish and then paste them on paper.

It is easier for children to learn about shapes if they are not all introduced together. One shape can be learned by the group before another is introduced. If the shapes which are basic are mastered the teacher may want to introduce more advanced ones: cube, cylinder, oval, etc. The children should become familiar with the words and which shape they stand for. "John has round buttons on his jacket." "Miss Jones has a square pin on her dress." The teacher can encourage the children to see likenesses and differences, cause and effect, relationships. "That barrel rolls over and over when you push it. Why? Why doesn't the big box roll over when you push it like the barrel? How are they different? How are they the same? What else can you see that rolls like the barrel? Children can learn the concept of shape by building with unit blocks. Just by handling the blocks the children become aware of different shapes. The children can be stimulated to recognize the difference between blocks by comments by the teacher.

Three demensional shapes can be introduced for the children to play with, compare and label. Such household items as cylindrical boxes, balls, etc. can be used. Children can recognize and compare the shapes of the crackers used for snack.

Attach a piece of construction paper with a shape or design drawn on it to the board from the hammer and nail set or any board into which tacks can be easily pushed. Give the child a box of colored pins or thumbtacks and have him place them along the edge of the design.

Perceptual and Memory Skills

II-5 When given an object child can by touch alone match it to a similar one.

II-5 When given an object child can determine what it is without looking at it and only touching it.

Beginning Activities:

Expose the child to several experiences which create an awareness of different feelings for him. Art activities such as different types of fingerpaint, sand and water play, playing with mud, cooking experiences, painting with his feet are good examples.

Create a feely box by cutting a hole in the end of a shoe box and attaching with glue or thread a sock which has had the top cut off. Place objects in the box which the child must reach inside to feel and identify. Place a similar object outside of the box so that the child knows what he must find inside. Use familiar objects first and when he is able to find these with skill introduce different shapes.

Cut two circles each out of several different texture fabrics. At first have the child feel the differences between the circles and match them while he is looking. As he becomes familiar with them place one on the table and have him draw one that feels the same out of a feely box. Old wall paper books have several different textures in them and circles can be cut out of them also.

Pass hard and soft objects around the group and let the children feel the textures against their faces and bodies. Ask the children if they can find the hard and soft parts of their own bodies. Talk about things which are hard and soft. Repeat this activity with other texture words.

Go for a walk and make crayon rubbings of different textures and surfaces that you see. For example, a brick wall, the cement sidewalk, the bark on a tree. Place the paper over the surface and rub the side of the crayon over the paper. This can also be done at the art table by putting out things (ex: different texture fabrics, leaves, different shapes and forms cut out of cardboard or textured paper) which can be placed under the paper and rubbed over.

Mastering Activities:

As skill with the feely box increases instruct the child to either reach into it and find an item that you have only given him the name of or to reach in and tell you what he feels in the box.

Perceptual Skills

II-7 When shown objects of different sizes the child can make discriminations between different sizes.

This matching skill is more difficult than many others because in order to do it the child must have a second object to compare the first one to. An object can be red all by itself but it can not be smaller unless there is another object which is larger than it is.

Beginning Activities:

Begin by pointing out great differences in size to the children. Always work with objects before you work with pictures. Note the difference in size between teacher and children, tablespoon and teaspoon, big shoe and little shoe, etc. Compare only two items at first. Begin stressing same and different.

Have two boxes -- one small and one large. Have a pile of small identical objects and instruct the children to put an object in the big box, an object in the small box, etc.

Mastering Activities:

Most children this age can learn to put three or four objects into order. Have three boxes and label them small, smaller smallest or big, bigger, largest. Have a small plastic man or car. Label the boxes outloud with the children. "This is a small box. This is a smaller box. This is the smallest box." Instruct the child to put the man in the small box, smaller box, etc.

"What is big?" Let one child at a time say, "I am big. Can you see something bigger than me?" Vary the question with I am tall, I am small, etc.

Use commercial cylinders or boxes of different sizes which fit together or make your own set of boxes which fit into each other. As you work with the child putting them together talk about which one is smallest, which one is biggest, etc.

Work first with a group of objects and then with pictures. Hold up two in front of the group and have the child determine which is larger, which is smaller. Working again first with objects and then with pictures hold one of them up in front of the group and have the children find something in the room which is either bigger or smaller than it.

Challenging Activities:

Objects can not only be compared in size they can also be compared and ordered on the basis of quality (light, dark, rough, smooth) and quantity (more, less, lots, few). Work with the following opposites using many of the same games which were used to learn differences in size. Introduce opposites as pairs and work with only one set at a time in order not to confuse the children.

heavy-light	big-small	big-little
high-low	down-up	full-empty
more-less	thick-thin	narrow-wide
short-tall	near-far	long-short
begin-end	old-new	noisy-quiet
open-close	all-none	rough-smooth
hard-soft	warm-cool	hot-cold
something-nothing	push-pull	fast-slow

Give sentences to the children and have them give you the word that would make the sentence the opposite of what you have said. I saw a big dog (I saw a little dog).

Many opposites can be acted out--up-down, fast-slow, etc.

Cut straws into several graduated lengths and have children arrange them in a row from the shortest to the longest. Be careful that you do not put more straws into the series than the child is able to do--begin with four.

Perception Skills

II-8 Child can identify common sounds and determine difference between sounds.

Beginning Activities:

Obtain 35mm film cans from a camera store. Fill the cans with several different materials so that when they are shaken they produce different sounds. Make two of each sound. Place them together on the table so that the child can shake them and place the two together that sound alike.

Set a alarm clock and hide it in the room. When it goes off have the children try to find where it is. Obtain a loud clock and hide it in the room. Have the children discover where it is by listening for the ticking.

Have children follow you around a large area by listening to your blowing a whistle, ringing a bell, etc.

Hold a clock by the child's ear and have him raise his hand when he can no longer hear it as you move further and further away.

Whisper through a cardboard tube into the child's ear.

Create two sounds for the children (clap your hands and ring a bell). Ask the children to identify the first and last sound. Name one of the sounds and ask the children whether it was the first or last sound.

Have ready two small containers with beans inside of them. Place a kleenex in with some of the beans in one. Tell the children to listen and find out which one is louder and which one is softer.

Ask the group to close their eyes and listen for the sound of an object falling. "Discover" together that a heavy thing makes a sharp, loud sound and that you barely hear the russle of soft sounds.

Reproduce sound and equate it with movement. Hands fall fast and make a loud sound when they hit the floor, hands fall slow and make a soft sound, etc.

Reproduce hard and soft sounds with different parts of your body. Hard sounds -- hands clapping, feet stamping, tongue clicking, etc. Soft sound -- hands rubbing together, feet sliding, tip-toeing, etc.

Play records and have the children identify the music as loud or soft.

Mastering Activities:

Tell the children to listen as you count from one to five. Tell them that when you are through you want them to count back in the same voice. Vary your voice tone.

Sit with the children in a circle and use a xylophone or step bells. Hit two notes at a time and have the children identify whether they are the same or different. Try to determine whether the high note was first or last.

The teacher hits two notes on the piano. If the second note is higher than the first the children stand up; if it is lower they lie down; and if it is the same they stay where they are.

The teacher reads a list of words she has prepared beforehand. She tells the children to raise their hand whenever they hear the name of a number. (dive, five, hive, ton, ten) May be used with any concept.

Find a short story that has one word repeated several times or make one up. Ask the children to raise their hand or make a similar gesture whenever they hear the word.

Tell the children to close their eyes and tell you what they hear. Produce several sounds for them to identify.

Use a tape recorder in the classroom.

Use familiar fingerplays and poems and vary the pitch used in them.

Teach the children to play musical chairs.

Challenging Activities:

Have the children close their eyes and cound how many beans you drop in a can, times you clap your hands, etc.

Have the children sit in a circle and pass a beanbag around as long as the music is playing. The child who has the bag when the music stops leaves the circle.

Give a child an identical musical instrument as you have. Have him produce the same sound that you make.

Blindfold the child and have him point to where a sound is originating in the room.

Blindfold a child and have him identify other children's voices.

Hide an object while a child is out of the room and have him find it by clapping loudly when he is near it, softly when he is not.

Perceptual Skills

II-9 When given a puzzle the child can put it together with skill.

Teachers should begin the year with simple four to six piece puzzles. She should be aware when the children have mastered these and gradually substitute more difficult ones. Children should be taught to take a puzzle to the table and sit down with it. They should be taught how to take the pieces from the puzzles and shown how to place them upright on the table. Some children need help to finish a puzzle and this should be given. A teacher can place a piece near to where it belongs or draw the child's attention to the shape the edge of the piece should have to fit in a certain place. A child learns very little by taking a puzzle apart and being unable to return it to its original condition.

Challenging Activities:

Cut two identical pictures out of two coloring books. Color them with the same colors and paste one of them on one side of a manila folder. Cut the second picture into pieces and place the pieces in an envelope glued to the other side of the folder. Child then places the pieces on the entire picture where they belong or constructs the picture on the table so it is like the one in the folder.

Select a wrapping paper that is an all over design which can easily be cut into segments and mount it on a piece of cardboard. Select an identical piece of paper but after mounting it cut it into the individual sections suggested by the design. Child then matches the smaller pieces on the larger piece.

Mount a sheet of contruction paper on a piece of cardboard and cut it into puzzle pieces. Child must depend on the edges of the pieces to know where they go. A similarly sized piece of paper can be provided for the child to do the puzzle on if he can not make it without knowing what it looks like first.

Have children mount pictures from magazines which they like on cardboard and cut to make their own puzzles.

Cut and mount two large identical shapes on cardboard. Cut one shape into puzzle pieces and child can reconstruct it.

Purchase commercial puzzles of 50-100 pieces for those children who are advanced in this skill.

Perceptual and Memory Skills

II-10 When shown a pattern of color cards the child can build one like it.

IV-6 When shown a pattern of color cards which are then covered the child can build one like it.

Beginning Activities:

Begin with two object patterns for the child to copy. Using beads, pegs, cards, etc. make a pattern while the child is watching and then have him make one just like it. Gradually increase the number of objects in the pattern.

Build a pattern across the flannel board, with beads on a string, with pegs, etc. As you place the colors have the child name them with you -- red, blue, red, blue. After this has happened several times ask the child if he knows what will come next. Use with colors, shapes, etc.

Mastering Activities:

Give the child a box of beads, pegs, chips etc. which is the same as yours. Tell him that you want him to build the same pattern that you are building. Place a piece on the table and require him to place the same piece near his box. Continue to add pieces. Be sure that the child is sitting on the same side of the table that you are so that he sees the pattern just like you do.

Use commercial parquetry blocks or make your own by cutting several different shapes out of several different color papers. Make a design by pasting many of them on a sheet of paper. Be sure that you have enough remaining loose for the child to place one on the design to match all those you have pasted there.

Draw several rows of patterns on a piece of cardboard and cover with clear contac. For example, a row of circle, square, circle, square, circle. Leave the last space blank for the child to draw the shape in which completes the pattern.

Draw with a crayon patterns of beads or pegs on a piece of cardboard. The child is to take the beads or pegs and make them in the same order as you have drawn on the cardboard.

Challenging Activities:

Child selects one card from a pocket in a folder. He looks at it and then hides it and tries to draw it. As the ability increases place more and more complex designs in the folder.

Beginning designs should be such things as a circle, a square, etc.

Open a small picture book or story book to a given page and have the child look at it for a few seconds. Close the book and ask him to find the same page.

Draw a simple design on a piece of paper or the blackboard and have the child watch you. Then erase it or hide it and have him make another one like it.

Perceptual Skills

II-11 When shown a numeral the child can match it to a similar one.

II-12 When shown a letter the child can match it to a similar one.

Cut letters and numerals out of sandpaper and mount them on cardboard so the child can trace them with his fingertips.

Write large letters and numerals on cardboard and cover with clear contac so the child can trace over them with a crayon.

Glue heavy yarn on cardboard in the form of letters and numerals and have the child trace over it with his fingertips.

Place a typewriter in the room and encourage the children to notice the letters which are being made by hitting the keys.

Have children trace letters with carbon paper or place tissue paper over them and trace and say their name while doing so.

Write large letters which are similar (b and d) on thin paper so that the child may place one on top of the other and note the different directions which they go. Always say the names of the letters as you put them together.

Place several rows of identical and similar letters on a piece of cardboard. Tell the child to go through the row until he finds the letter which is like the one before the line and put a circle around it. d/ b h n d p Cover with clear contac to use again and again.

Challenging Activities:

When the child has mastered differences between individual letters and numbers group numbers and letters together and have him find similar groups using the games above. For example, small words such as go, no, pop or numeral combinations such as 23, 34, etc.

Perceptual Skills

II-14 When shown a picture the child can discriminate between conflicting stimuli to find the object that the teacher asks him to.

Beginning Activities:

Bring pictures to group time and ask the children to tell you what they see in the picture. Draw attention to details in the picture.

Mount a picture on a piece of cardboard and from an identical picture cut out some of the objects in the picture and mount them under the picture. Cover the picture with clear contac and the child can draw a line from the object under the picture to where he sees it in the picture.

Place a picture before the child and ask him to show you all the things in it which are red, which are round, etc.

Mastering Activities:

Cut out several pictures of objects from a catalogue and place on the table. Name an object and have the child select it for you from the group.

Challenging Activities:

Select pictures from children's magazines and activity books which have hidden figures in them. Mount on cardboard and cover with clear contac. Tell the child you want him to put a line on all the objects of a certain type which he can find in the picture.

Language Skills

III-1 When shown several objects child can recognize them by name and by function.

III-7 When speaking to another adult or child the child can communicate his ideas in both simple and complex sentences.

III-8 When talking about an object the child can tell you two or more things about it.

III-2 When shown several objects the child knows the names of them and uses them in conversation.

Beginning Activities:

Work with the child on concept units included at the end of the curriculum.

Put magazines on the table with scissors and glue. Staple together large pieces of paper and have the children paste pictures they cut out into the book. Take the book to circle and talk about the pictures. Never ask only questions that can be just answered by yes and no.

Sharing time -- Encourage children to bring things from home that they want to share with everybody. During group time have the child tell the remainder of the group what he wishes about the item he brought. If he has nothing to say ask him what he does with it, where he got it, etc. Be careful that so many children do not share things on one day that the remainder of the group are not listening to them.

Give each child a small object and later on as skill develops a picture to hold. Ask the child who has a particular object to bring it to the front of the group and tell the group about it. Questions to help -- what color is it, how does it feel, what would you do with it, what is it?

Bring an old TV set minus its insides into the classroom or make one out of a large cardboard box. Encourage children to use puppets and place themselves inside the set to give a show. For those children who are too still or quiet turn up the volume so you can hear them.

Mastering Activities:

Act out pantomimes and have the children tell you what you are doing. Encourage complete sentences by repeating the phrase the child has used after him, but in complete sentence form. Example: combing your hair -- That's right, I'm combing my hair!

A wide exposure to stories increases any child's vocabulary. Adapt stories by stopping in the middle and asking the children what they think will happen, why something is happening, what they see in the picture, etc.

During sharing time as the children become more at ease speaking in front of the group tell them that you now want them to tell everybody three things about the object they have brought. Hold up three fingers and count the things that they tell. Children who can not think of three items should ask the group to help by asking him questions about it.

Challenging Activities:

Complex sentence patterns indicate a higher level of thinking. Sentence patterns which should be encouraged and developed are:

Not sentences: This is not a square, but a circle.

Place several objects, shapes, etc on table or flannel board. Ask the children -- can you find me the one that is not a square, etc.

Show the children an object. Ask them "can you tell you what this is not?" Encourage sentences such as "this is not a doll" and "this is not round, red, etc."

Cause and effect sentences: "<u>If</u> the animal says 'bow-wow', <u>then</u> it is a dog."

Tell the children that you are going to play a game where they will have to listen very carefully because you are going to tell them something to do. Make several statements like the following: If a cow has two legs, then turn around.
If you are a boy, sit down.

Language Skills

III-3 When speaking the child can use correct pronunciation of sounds.

On the average most children should be able to pronounce the following sounds correctly:

3 years old	m	money, hammer, loom
	n	nut, plenty, pen
	p	purple, puppy, top
	h	hat
	w	water,
	f	farm,
4 years old	b	box, baby, tab
	k	cap, chicken, look
	g	game, wagon, dig
	s	suit, Susan, sees
	sh	share
	ch	church
	d	door, fiddle, did
5 years old	y	yellow,
	l	look, balloon, all

The best way to reach this goal is to have many models of good pronunciation in the classroom for the child to follow. A speech therapist should be asked to check any child that the teacher feels is quite behind in pronunciation of sounds and she will be able to give the child specific games to help his particular problem. If the class contains a large number of bilingual children the speech therapist should be asked for specific games which can help overcome those pronunciation problems which result from speaking two different languages.

Language Skills:

III-4 When asked the child can give personnel information about himself.

See unit "Me and Myself" at end of curriculum guide.

Language Skills

III-5 When shown one of the eight basic colors or a circle, square, triangle, rectangle or diamond the child can name it.

Beginning Skills:

Cut around a large circle of cardboard and divide it into eight sections for colors or five sections for shapes. If your intention is color names color each section a different color; if it is shapes draw one in each section. Fasten an arrow to the center of the circle with a paper fastener. The child spins the arrow and names the color where it lands.

Make fishing poles out of sticks and strings and fasten a small magnet to the end of each string. Make fish out of different colors and have the child name the color that he catches.

Any of the games used for II-3 or II-4 can be adapted to learn the names of colors and shapes.

Challenging Skills:

After the children have learned the names of the basic colors and shapes introduce them to new ones such as pink or gray, oval or cube.

Language Skills

III-5 When shown one of these five shapes -- circle, square, rectangle, triangle or diamond -- the child can name it.

Have the children sing the following song with you as they make the movements in the air, on the blackboard or on paper.
Tune -- "Here we go around the Mulberry Bush"

This is the way we make a circle (square, triangle, etc)
Make a circle, make a circle,
This is the way we make a circle
When we go to school.

This is how we make it big (small)

As you talk about different shapes set up a science table which the children can bring objects to place upon which are that shape. Initiate with a few objects of your own.

Cut art project paper and easel paper in the shape you are talking about.

Do a collage with objects which are the shape you are talking about.

Give each child in the class a shape so that some have circles, some have squares, etc. Give them directions according to the shape that they have. All the circles stand by the door. All the squares walk around the table. This can be varied by passing out different colored shapes. All the red circles hop up and down.

Language Skills

III-6 When speaking the child is able to use prepositions correctly.

Suggested prepositions: in, up, down, under, next to, between, on, over, in front of, in back of, beside, behind.

Beginning Activities:

Direct the children to place their hands as you tell them. "Put your hand over your head, under your chin, etc."

Have the child place his body in the position you suggest. "Crawl under the table, stand on the chair, etc."

Give the child a block and an object and direct him to put the object on the block, next to the block, etc.

As children work and play in the school give them directions that promote learning. "Put the sand in the box." "Put the papers behind the cupboard."

With string or yarn make circles or lines on the floor -- one for each child. Give directions such as these: step over your circle, step into your circle, etc.

Give each child a paper with a line drawn on it and a small square. Keep one on the flannel board in front of the group. Give such directions as "put your square above the line, below the line, etc." Instead of a paper with a line you could give each child a piece of yarn to put on the floor.

Mastering Activities:

After the child has mastered use of prepositions and position with concrete objects work on recognition of placement which they have not positioned. For example place your hand on your head and ask the children where it is. Show them pictures and ask them to locate objects in the picture by telling you where they are.

Challenging Activities:

Work with additional prepositions such as: at, by, about, where, next, last, first, on top, bottom, before, after, down, here, low, over, out, into, side, inside, with, left, right, top, far, below, etc.

Language Skills

III- 9 When hearing a sentence the child can determine whether it makes sense or select the proper word so that it will.

Beginning Activities:

Beginning with simple sentences make statements in group time which are either true or false and tell the children that they must determine which they are. If the statement is false -- "I have three arms" -- direct the children to tell you how to make it correct.

Mastering activities:

Begin a sentence in group time and instruct a child to finish it so that it makes sense or nonsense. "I like to eat _____."

Language Skills:

III-11 When shown any of the capital or small letters the child can tell you what it is.

III-10 When shown any of the numerals from one to ten the child can tell you what it is.

Beginning Activities:

Any of the games in II-11 or II-12 can be adapted to work towards this goal.

Lotto games can be made with numerals or letters on them.

Telephone books, newspapers and magazines, and calendars can be used to find a particular letter and cut it out.

Old clocks can be used to learn different numerals.

Hold up a numeral card from one to ten in front of the group and have the children hold up the same number of fingers.

Mastering Activities:

Give children cards on which are written the capital and small letters. Child puts together the two cards which are the same letter.

Challenging Activities:

Encourage children to examine words to see what letters are inside them and then to make the same word out of letter cards.

Language Skills

III-12 When asked to count the child can count to at least 20 by rote.

Beginning Activities:

The best way to teach a child the rote sequence of numbers is to count anything and everything. There are several parts of the school day that lend themselves easily to counting experiences.

Hold up cards with dots or pictures on them. Have the children count the dots.

Count objects in group time. Count the number of children in school today, the number of boys, etc.

Every room should have a box with things to count--bottle caps, buttons, stones, straws, macaroni, etc.

Mastering Activities:

Hold a flashlight in front of the children and blink it off and on. Have them count the blinks.

Memory Skills

IV-7 After listening to a verbal description of an object the child can find it in the room.

IV-1 After being shown an object which is then hidden the child can pick it out from a group of objects.

IV-5 After being shown a group of three to five objects the child can remember something when it is removed from the group.

Beginning Activities:

Have the children discover what you are talking about by giving them descriptive clues of it. "I am thinking of something that is black, rings like a bell and you can put it up to your ear and hear people talking." Also talk about children. "I am thinking about someone who has brown hair, a blue dress and white stockings."

Have children close their eyes and tell you what they are wearing.

Have children tell you what they ate for breakfast, what they did earlier in the morning, what they did last night, etc.

Mastering Activities:

Put three to five objects on the flannel board and after the children have studied them have them close their eyes and then tell you which one you removed.

Give the child three or more objects and have him study them. Then have him hand them out to children who hide them. He gets back those objects which he can remember and name.

Arrange three or four items in order and have the child study them. While he turns his back rearrange the items and have the child return them to the original order.

Place several objects on a table in front of the child. After he has studied them have him turn around and give him everyone that he can name.

Challenging Activities:

Cut out a cartoon character in several different poses. Be sure that you have two of each pose. Place some on the board and then show the child one, hide it and have him pick out the identical one.

Memory Skills

IV-4 After being told the child can recall the instructions for three tasks and do them.

IV-3 After hearing them the child can repeat a sequence of four numbers.

IV-2 After hearing them the child can repeat a sequence of words.

IV-7 After listening to a story the child can answer questions about that story.

Beginning Activities:

The teacher gives oral directions for the group to follow in unison. For example, stand up, touch your hair, then sit down. Begin with two commands and increase the number as the children become skilled.

Use a puppet as a leader to play "do what I say". Give oral directions with the puppet and have the children follow them. Gradually increase the number and the complexity of the directions.

Face the children and clap your hands. Have him duplicate your clapping pattern with his hands.

Say a series of numbers and/or letters in front of the group and have the children repeat them.

Have the children learn their phone numbers and addresses.

Pick a simple story (ex: The Three Bears). Tell it to the children over a period of time in several different ways -- with a book, puppets, dramatic play, etc. As the children become more and more familiar with the story change the order or let them fill in lines for you.

Have the children tell a story into the tape recorder.

Read a story to the children. When it is finished ask them what happened first, next, who was the story about, etc.

Challenging Activities:

Mix letters and numbers and have the child repeat them after you.

Say two or three letters or numerals and have the child say the backwards.

Memory Skills

IV-7 Upon hearing them several times the child can repeat simple poems, songs and fingerplays.

The teacher reads a simple poem to the children. She repeats the poem letting the children complete the last rhyming word in each line. The teacher asks the children to recall some information emphasized in the poem. A teacher can often make up finger motions to go with a poem which helps the children be involved in learning it. Introduce a new nursery rhyme weekly using flannel board characters traced from books to place on the flannel board. Tell the rhyme using the cutouts. Retell and let the children help finish lines. Let a child put the piece on the board while everyone says the rhyme. If this particular nursery rhyme has music sing it with the children. Talk about the rhyme and help children think about how many things happened in it. Ex: Little Miss Muffet. 1. Little Miss Muffet sat down. 2. She ate. 3. Spider came. 4. He sat down next to her. 5. She ran away. This should help clarify the story and what happened first, next, etc. After a few days mix up the story and have the children correct you. Ask the children questions about the story. Why did Miss Muffet sit down? What did the spider do?

Introduce new fingerplays and songs weekly as you repeat old and familiar ones. Say the fingerplay by yourself the first time and encourage the children to say it with you after that or at least do the actions with you. Stop at any word that may be unfamiliar and define it for the children.

Problem Solving Skills

V-1 When shown a group of objects the child can sort them into sub groups on the basis of a common singular property.

Beginning Activities:

Early matching skill is done on the basis of the singular property which is most easily observed by the child. Quite often this is color. He may, however, group objects into groups of two on the basis of their relationship. For example, a shirt would be placed with a tie, a spoon with a fork. Given a large group of objects to sort the early skill level would involve sorting these into many small groups of two items which relate and the reason for putting two objects together would change from group to group. If the objects were easily divisible into two groups because all were either one color or other the child could then divide into two groups.

Perceptual Skills II is a basis for this higher skill level.

A box of colored squares with only two or three colors at first. Place a piece of paper in front of the child with the same colors on it and tell him that you want him to place all the ones which are the same color as one part of the paper on it.

Group objects which are the same except for the grouping criteria first (ex: identical except different colors).

Provide several boxes with many objects inside of them which are identical except for one thing which they can be sorted on. Provide muffin tins so that the children can sort the objects into them. Some items which could be provided are: colored popcorn, buttons, toothpicks, beads.

Mastering Activities:

Change sorting boxes so that the objects which the children are sorting are different in two categories. For example beads which differ in shape and color or macaroni pieces which have been dyed different colors and are different shapes. Continue to work with objects only.

Choose three or four children to stand in front of the group. Have all the children find somethings about them which are the same and some things which are different.

Have a box of assorted shapes and forms made out of several different colors of felt. Place this near the flannel board

so that the child may group them on it according to whatever criteria he selects--color, form or shape.

Stress as you work with the children to put things away in your room what goes together and why it goes together. "All the brushes go in here. Some are short and some are long." "The blocks go on the shelves. We put the square ones here and the round ones here."

Challenging Activities:

Provide boxes of different objects to sort. For example, the small toys which are found in the stationers to tie on packages or to use in creative crafts provide a variety of objects. Encourage the child to verbalize the reason why he is putting objects together. Work with him to group objects in larger groups than the two objects which he placed together in Beginning Activities. Help him discover that he can not only group objects based on a property they have in common (color) or a common function (they are all toys which you play with), but also on the basis of something which he abstracts from them by looking at them (they are all short).

Provide objects which are different in two aspects only -- shape and color. Place a paper in front of the child which has places for him to place all the blue, red and yellow triangles, all the blue, red and yellow squares and all the blue, red and yellow circles. As he becomes more capable of dividing objects into smaller groups on the basis of two or more properties remove the sheet and encourage him to discover the properties by himself. When he becomes capable of this introduce a third property -- size.

Provide tiny objects for the child to sort which are quite similar -- different seeds, dried vegetables (peas, beans, etc), and small metal objects (brads, screws, nuts, etc.).

As the child becomes increasingly able to categorize objects give him a group of pictures which are easily categorized on the basis of a single property -- they are all dominantly one color or another, they are all used for either one function or another. Gradually increase the complexity of the pictures until he is dividing a set of animal pictures into sub groups, a group of children into smaller groups, etc.

On the flannel board place four pictures -- three of a similar category and the fourth from a different one. "Which ones of these are the same? Which one is different? Why is it different?"

Make a book of things which you can eat, things that run, etc. Be sure that the child understands what the book is to be about and place something in front of him to remind him or he will easily forget.

Problem Solving Skills

V-2 When shown a row of ten objects the child can construct an identical row underneath it.

Beginning Activities:

Children should initially be shown the one to one correspondence between two rows by showing them two rows of objects which go together. For example, the child can first count a row of ten cups and then find out if there enough saucers in another row for the cups. The teacher can ask such questions as are there enough cups for all of us, are there enough chairs for all of us. This can be established both by counting each group and by actively placing a child in each chair.

Objects can be placed on the flannel board and children can by arranging the rows close to each other discover if there are the same number in each row.

Cards with different groups of dots on them are made and placed near a can which contains macaroni. The child is to place as many pieces of macaroni on each card as there are dots.

A group of objects from one to ten is placed on the flannel board and the child is encouraged to make a similar group.

The teacher draws a group of objects on the blackboard or a piece of paper and encourages the child to draw a similar group. If the child does not draw enough or draws too many he can draw lines from the teachers objects to an object in his group and see if he has any left over.

Mastering Activities:

Egg carton counting boxes. The child places the same number of pieces of macaroni in an egg carton section as there are dots drawn on it.

Children are sitting in a group with the teacher. She holds up a card with a group of dots on it and the children either clap or hit the xylophone the same number of times. Begin with very small groups.

Problem Solving Skills

V-3 When shown groups of one to three objects child can quickly determine their number without having to count them or to match them one to one to another group.

Beginning Activities:

All activities which have helped the child to recognize numerals, count by rote and match objects on a one to one correspondence will help him to develop a sense of rational number.

Flash card with groups of dots or raise a certain number of fingers quickly before the child and have him tell you how many there are.

Purchase commercial counting rods or make a set yourself by cutting pieces of wood so that the smallest is one inch and each additional one after that adds an additional inch. Cut enough pieces so the child can place the 10 inch rod on the table and determine that it is made up of 10 one inch units by placing ten of these units near it. The teacher will want to verbally interact with the child so that he will have a greater understanding of what he is doing.

Challenging Activities:

As the child achieves comprehension of groups from one to three whether they are placed in a straight line or grouped together (for example: three objects in a straight line or three objects in a pile) further experiences will help him achieve this immediate recognition for groups of higher numbers.

For those children who are quite advanced in their ability to achieve this goal objects can be grouped together or in the several ways they can be composed. For example, the child can be shown that a group of five objects has the same number as a group of four and one objects and a group of three and two objects, etc.

Problem Solving Skills

V-4 When given three or four objects which are graduated in size the child can arrange them in sequence from small to big or short to tall.

Beginning Activities:

The basis for this skill is found in Perceptual Skills II-7.

The child should work with objects to put in order before he works with pictures. Good objects to begin with are a set of measuring spoons, measuring cups or commercial toys which gradually increase in size. Begin with only three or four objects.

Challenging Activities:

As the child increases in his ability to work with three or four objects give him a larger group of objects to put in order.

Give the child pictures of objects which range in size.

Give the child objects which he can seriate on the basis of two criteria -- color and size. For example a set of blocks could range from small to large and from pink to deep red. This is a very difficult task and should be undertaken only by those children who have completely mastered all other previous tasks and are ready for further challenges.

Problem Solving Skills

V-5 When shown a row of five objects, the child can point to the first object, the last object and the middle one.

Beginning Activities:

As the children stand in line or go from one activity to another say often who is first, who is last and who is in the middle.

Put objects on the flannel board and have children point to the first or number one object, the last object and the middle object which has the same number of objects on either side of it.

Put three children in front of the group and discover who is first, who is last and who is in the middle and why.

Challenging Activities:

As the children learn the meaning of these three positions and can recognize them in numerous situations introduce them to other positions such as second or the number two place.

Problem Solving Skills

V-6 When given a picture with something missing in it the child can determine what is missing.

Beginning Skills:

Cut several pictures of familiar shapes from magazines. From each picture cut off one piece (ex: the leg from a man). Put the picture in front of the child and ask him what is missing. Have the piece that you cut off ready to add to the picture so you can use it to show him that he is correct or so that you can supply it if he can not determine what is missing.

Assemble pictures of animals which have one wrong part (ex: a cow with an elephant's head). Have the children determine what is wrong with the picture.

Draw a simple picture (ex: a kite with a tail) on a piece of paper and draw next to it a portion of the same object. Cover with clear plastic. The child is to draw the lines on the second picture which would make it identical to the first.

Social Studies Units

The teacher who plans ahead and thinks through those experiences she wants for her children will find herself better organized and prepared for the daily classroom situation. Children learn more from being exposed to a sequential development of a concept. The following units are a good guide for a year of experiences with a class of four year olds though the teacher should feel free to explore additional areas. The classroom activities and discussion can concentrate on one of these particular units at a special time during the year plus continue to emphasis the daily classroom activities. It is assumed that the teacher will gather her children together once a daily session for five to ten minutes of exposure to vocabulary, objects and concepts related to each theme. Reinforcement of these ideas can also be carried out during free play and other portions of the morning.

Before coming to the classroom each week the teacher should select the particular theme she will emphasize that week, determine those goals or concepts she wishes her children to become familiar with and plan activities from day to day so the children will be stimulated to grow towards mastery of those goals. Such decisions should be put in written form to post in the classroom so aides and volunteers are aware of weekly goals. The following form is suggested:

Dates:
Theme:
Goals:
Vocabulary:

Four year olds learn best by their own manipulation of objects and it is important that the majority of the preschool session be a time when children can freely involve themselves in activities which interest them. A short group period each day, however, geared to the attention span of the children where all children are required to participate is essential for the teacher to present new concepts, vocabulary and ideas. Because she is requiring all children to participate the teacher immediately assumes an obligation to be thoroughly prepared in advance for each group time and to provide experiences which involve and interest her children. The

more concrete experiences (as versus pictures of objects or events) that the teacher can prepare for her children the more opportunity the children will have to handle and work with things and thus learn more about them.

Field trips provide rich opportunities for your children to see and feel things first hand. They should not, however, be taken just for the sake of taking field trips, but should be well thought through in advance. If the child is prepared by having been exposed to ideas of what he will see on the field trip he will gain more from that exposure. At this age it is a good idea not to take children on a field trip unless the teacher feels that they are a cohesive enough group to follow a few rules. Little will be gained from the trip where the main action is keeping children from handling things they are not permitted to handle or gathering them together again and again. When a class is on a field trip it is as guests in someone else's place of business. Children should know to respect the property there as belonging to someone else and not play with it unless they are given permission. Children should know to stay with an adult. A certain standard of behavior, which each teacher should decide at the beginning of the school year for herself, should be discussed with the children and special conditions should be practiced so that they are aware of what you expect of them. People should be prepared for the age level of the children so that they do not plan too many experiences for them. Whenever a class goes out into the community it is representing education and the schools and your children are a reflection of your teaching and your program.

Each unit in this curriculum is a minimum structure which the teacher should expand with additional ideas, experiences, songs, fingerplays, and stories.

Me and Myself

Goals:

To help the child realize that his name belongs to him and other people have names also.

I am made up of all different kinds of parts -- a head, a tummy, etc.

I like me!

Activities:

Be sure that the child is always addressed by his name and that each day someone speaks to him using his name. Spend some time in group time going from child to child and saying individual names.

Place large mirrors in the classroom so that the children can look at themselves in them. Give each child a hand mirror during group time and look in it for their eyes, nose, mouth, etc.

Take individual pictures of the children and place them with each child's name where the children can easily study them.

Make silhouettes of the children's heads or draw around their bodies.

Play a game in group time called "Touch your Nose". Have children touch different parts of their body as you say them. Do this yourself so children may follow your cues for those parts which they do not know.

Take movies and/or slides of daily activities and show them with the children. Be sure that all children are included in them.

Use a tape recorder to record the sound of each child's voice.

Celebrate birthdays!

Measure and show growth of the children.

Cut out body parts and build a large doll on the flannel board naming those parts which you add. Leave out so the children may play with the pieces.

Ask children questions such as do legs smell, do noses jump?

My Family

Goals:

The family is made up of lots of people. Some of these are the father, the mother, the sister, the brother, the grandmother and the grandfather.

Each person in the family must help to get things done.

Family members work together to get jobs done.

Activities:

Find stories about mothers and fathers and what they do during the day. Cut pictures from magazines that show the same thing. Help children to decide whether it is a task that the mother or father does at their home. Remember that in many homes mothers and fathers do very similar tasks so you will want to select ones which are very distinctive.

Ask what a little boy or girl could do at home. What do you do in your home? What could you do to help your mother or father?

Invite parents to come to the classroom and tell what they do at home. Invite a mother to come with her baby and tell what she must do to take care of her baby.

Set up the play house corner to encourage play about the family.

My Home

Goals:

We live in houses so that we will be warm and safe and dry when it is raining or snowing.
Houses are made up of rooms.
Furniture goes into each room.
Rooms are used for different things.

Activities:

Begin with a picture of a house. Who do you think lives here? Why? Pretend that the children are raindrops and ask them why they would want to go into the house when it rains.

Talk about what is inside a house. Have pictures of different rooms in a house and identify them and talk about what you do in them. Examine the different rooms in a doll house and talk about what is done in each of them.

Look at pictures of different pieces of furniture. Ask the children what you would use the furniture for, what room in the house you would put it in and why. Take all the furniture out of the doll house and put it back in as a group deciding which room it belongs in and why.

Through the use of pictures, stories and a visit to a local construction site introduce the carpenter. See if the children can determine what he is building the house from. Provide tools and a tool chest near the block corner so the children can build their own houses.

Fall

Goals:

Days are not as hot as they are in the summer.
The leaves are coming down from the trees to the ground.
The leaves will stay off of the trees for the winter and the branches will be bare.
When a leaf is ready to fall off a tree it changes from green to red, yellow, orange or brown.

Activities:

A good start for this unit is to create a story about a little leaf that was small and green and lived on a branch of a tree. Talk about the long hot summer days and how he grew and grew until he was a big leaf. However, one day he noticed that it was getting colder outside and the boys and girls had to wear jackets and sweaters when they went by him on the way to school. He was getting very tired, too, and cold. One morning he woke up to find that he had turned a beautiful red color. A gentle wind came up and he felt himself flying down to the ground.

A good way to learn the name of the season is to say that leaves fall to the ground in the fall.

Bring to group time leaves of all four colors and match them to construction paper leaves of the same colors.

Go for a walk. Notice that the leaves in the trees are mostly still green and that those that are not will fall off when you shake the branch. Note the color of the leaves on the ground. Give each child a paper bag to collect leaves it and use them during art for either a leave collage or to put under paper and rub over for texture drawing.

Halloween

Goals:

Halloween is a fun time.
To learn new words -- witch, ghost, owl, pumpkin, jack o' lantern, cat, broom, etc.
Some things are real and some are pretend.

Activities:

This is a fun time. Most of the vocabulary and experiences tied in with Halloween can be introduced through very interesting stories or vivid pictures.
Ghosts can come to group time by placing a kleenex on a finger and painting a face on it.
Take a trip to the store or farm to buy a pumpkin.
Carve the pumpkin together. Cut off the top and show the children the insides. Let them help scoop the insides out and feel them in their hands. Save some seeds. Put a face in the pumpkin and talk about the difference between a pumpkin and a jack o' lantern.
Paint Halloween pictures on newspapers with black paint.
Put something inside a Halloween Mystery Box and have the children guess what it is by asking you questions.
Use white chalk on black paper.
Put round orange paper pumpkins on the art table and have the children use scissors and paste to turn them into jack o' lanterns.

Foods-Harvest-Stores

Goals:

We go to the store to get the food that we eat.
We give the man at the store money for the food we buy.
The man at the store gets the food from the farmer who grows it.
It comes to the store in trains or in trucks.
Some food is cooked and put into cans before we buy it.
Some food we buy fresh.
Additional goals can be added which reflect the particular foods which the teacher has selected to emphasize.

Activities:

Introduce food during group time by having the real food present as well as pictures of it. Ask such questions as to the name of the food, what color it is, where it is grown, etc. to establish basic ideas about it. Cut and taste a small portion of it while you are talking about it. What does it taste like?

Establish a particular group of foods which you are going to concentrate on (vegetables). Set up a science table where children may examine these foods during free play and match them to pictures. Encourage verbal discussion about the food. Group them on the basis of a common characteristic--all green, all round, all long, etc. Have a tray of the raw food on the table for those children who wish to taste it.

Visit a farm or garden so that you may see the food growing. Discuss and look at the part of the plant that you eat and other parts. If possible bring parts of the plant back to school.

If the climate is conducive plant seeds or portion of the vegetable (such as the carrot top).

Plan during group time a cooking experience such as vegetable soup. Inquire of the children which vegetables they would like to put into their soup. Make two or three children responsible for purchasing each vegetable when you go to the store. Vegetable juice makes a good base for a soup and by cooking it in popcorn poppers you can establish two or three cooking centers so all children can be close to the experience. Have paring knives and peelers ready plus an adult at each center to gives directions on their use before giving them to each child. Put the prepared vegetables in the soup and cook until tender.

Place vegetable peelers and carrots and potatoes on the art table and have children peel vegetables.

This unit could be also done with fruits, dairy projects, or many other groups of food. Develop in the same manner as was done with vegetables and end with a cooking experience which is related to the foods.

Set up a classroom store in the block area.

Christmas

Goals:

Christmas is a happy time. (Christmas is a religious holiday. This must be handled very diplomatically in schools. You may have children who do not celebrate Christmas and you may wish to include other festivals which are important at this time of year in your unit. The school is not the place for religious training. It is best to talk about Christmas as a happy time of year and explore the various decorations and customs which go with it and leave religious training to the home and church.)

Christmas is a time of giving.

We give presents to those we love to make them happy.

When we receive a gift we say thank you so that people will know they made us happy.

Concepts can be developed through learning new vocabulary. (tree, branches, needles, pine, present, gift, wrapping, bow, ribbon, poinsetta, holly, wreath, candles, flame, wick, Santa Claus, reindeer, sleigh, ornaments, decorations, bells, stars, balls, chains, tinsel, stockings fireplace, mantel, chimney, etc)

Activities:

Introduce red and and green as the colors of Christmas and carry out in art work.

Bring Christmas things one at a time to group time to touch, feel and talk about. Use to decorate room.

Have pictures of people buying and wrapping gifts. What do you see in this picture? Who do you think they are wrapping that present for? Why do you think they are giving Mommy a present?

Bring a wrapped present with suckers or small candy inside to group time. What is on the outside of this? What do we have to do to get inside? Why did I give this present to you? When you tell me thank you what do I think?

There are countless Christmas stories available. Use them in group time to introduce new concepts and vocabulary.

Take children to buy or cut down your own tree. Trim it with those decorations which they make.

An essential part of the giving of any holiday is that the child learns that as much as he receives it is fun to give to people we love. Simple gifts that he can TOTALLY make himself can be made for parents and the child thus has much more of a part in the giving than if he gives a gift which must be made just so.

Ideas for holiday art are limitless. Use those which are unstructured where the finished product can be any old way and the child can completely enjoy the process of making it and not have to worry that it must end up looking like teacher's.

Birds

Goals:

Birds can fly.
Birds build nests out of sticks, twigs and grass for their homes.
Baby birds hatch out of eggs which the Mother bird has sat upon to keep warm.
Birds homes are usually high in trees.
Birds like to eat seeds, small insects and worms.
Birds have wings, feathers, beaks, tail and claws.

Activities:

Begin this unit by introducing a stuffed bird or a live one if it is available into the classroom during freeplay. When it is group time bring the bird to the group and talk about what it is. On a large piece of paper in front of the group or on the flannel board draw a bird carefully naming first and pointing to on the real bird the head, then body, legs, claws, beak, tail and wings. Leave picture near the bird so children can refer to it as they look at him. Display and show in group time other pictures of birds. If you bring a live bird to the classroom cover the cage during freeplay and leave it in one corner of the room and have the children discover it by hearing it whistle.

Examine the bird's beak. Bring seeds to circle and let the children look at them. Ask why the birds' beaks are pointed -- would it help him to eat seeds? How? Crack open large seeds and find the part that the birds like to eat. Do a seed collage at the art table.

Obtain an old bird's nest and bring it to group time. What is it made of? How do you think the bird got the things which it is made of? What did he use to put them together because he doesn't have any hands? Where do you think he built the nest? Would the ground be a good place? Could people and animals step on it there? Where would it be safe? Take a walk to look for birds' nests (teacher should be sure before hand that she knows the location of some so the walk will not be fruitless.)

Bring several feathers to class and tell the children that they have grown old and fallen from birds. Why does the bird have feather? How does the bird keep warm? Does he wear clothes? Can people fly? What does the bird have that helps him to fly? As you bring in all the items during the week gradually add them to an interest area which concentrates on birds. During the week watch for birds and point their flight out to the children.

The flight and walk of different birds lend themselves to rhythmic movement by the children.

If this unit is done in the winter time when it is quite

cold and barren discuss with the children how the birds can then obtain their food. Dig with spoons in the ground and note with the children how hard the ground is because it is cold. Conclude that the birds must have a hard time digging in it. Look for insects and note their absence because of the cold weather. Melt suet and add seeds to it and let it harden in a pan, milk carton with windows later cut in the side, etc. to feed the birds. Seeds can also be mixed with peanut butter. Place the feeders near the windows but in an area where they will not be disturbed by the play of the children. Have each child take some seeds home with him to feed the birds near his house if he wishes.

Talk about the several different colors of birds and use this opportunity to reinforce color words. Mount small stickers of birds on cards and group the cards according to the way the child wishes --all the birds that are red, that are small, etc. Create a lotto game by pasting a sticker on a card like a lotto card and a similar small card.

Bring eggs to class and talk about mother birds sitting on them until the baby bird is big enough to come out or hatch. Talk about the sharp edge of his beak and how he uses it to break the shell. If possible obtain fertile eggs and keep them in a incubator until they hatch. Help the children to understand that the incubator keeps them warm like the mother hen does.

Valentines Day

Goals:

Valentines Day is a special day when we take time to tell people that we love them.

We love people because they make us happy, take care of us, get things for us, etc.

We can give valentine cards to people to help them remember that we love them.

Red hearts are put on valentines.

Activities:

Bring a commercial valentine to the group time. Talk about the pictures and shapes on it. Ask the children whom they could give it to. Tell the children that you are going to give them each one because you love them and valentines tell people that we love them.

Identify in circle the special parts of the valentine such as the hearts and the lace. Set up the art table with items which the children can use to create valentines for the people they love. Work individually with each child so that he may learn to cut a heart. Show him how to fold the paper in two and point to the side that is open (edges) and the side that is closed (fold). Help him place two dots on the folded side. Put your pencil on the upper dot and tell him a story about a little boy who went out for a walk. Show how he first went up the hill and over it and when he got there he looked around until he saw his dog way down at the bottom of the hill. He ran all the way down to see him! Have the child cut out on this line and exclaim over the heart that he produces. Encourage him to make his own lines for more hearts. Be aware of the skill level of your children so that the pleasure of making and giving valentines is not destroyed because the child is frustrated by being unable to cut a heart. Encourage those children who are capable to do so and help those children who have not reached this level of skill.

Postman

Goals:

Postmen bring us letters.
Letters must have a stamp on them to be mailed.
If there are lines through the stamp you can not use it again.
We buy stamps at the post office and give the postman some money.
The words on the envelope tell our address which is the street on which we live and the town that it is in.
Mailboxes are red, white and blue. We put mail in them for the mailman to pick up and take to the post office.

Activities:

Bring some envelopes which have been used to group time and ask the children what they are and what was inside them. How did they get to my house? Who brought them?
Place a large piece of paper on the flannel board and each day add an additional line of the address to it explaining to the children what each means. Work with the children on learning their own address.
Give the children a piece of paper and have them write a letter to themselves. Place in an envelope which the teacher has printed the child's name and address on and visit the post office. Give each child enough money to buy one stamp and be sure that he knows that is what the money is for. After buying the stamp help the child glue it on the envelope and place it in the large mailbox. As the letters arrive at their homes encourage them to bring them back to school.
Walk in your neighborhood and look for mailboxes. Watch for your local postman schedule and invite him to say hello to the children.
Make mailbags for the children out of large paper bags with string on them for handles. Bring several old envelopes to school which the children may use for mail and provide pencils, paper and envelopes so they may write additional letters. Provide Christmas and Easter seals and other such stamps to put on the letters and purchase a stamp pad so the children may cancel the stamps as they mail them. Make a post office with a cash register and cover or paint a large box red, white and blue for a mail box.

Doctors and Nurses

Goals:

Doctors and nurses take care of us when we are sick.

Doctors and nurses give us things to take so that we will not become sick.

People who are very sick go to the hospital so that doctors and nurses can take special care of them.

Hospitals are very quiet places because sick people need to sleep and get well.

Hospitals are clean places.

Doctors and nurses wear white clothes so that they will be very clean too.

Doctors use special tools like a thermometer and stethoscope and often give us shots and pills.

Activities:

Begin the first group time with pictures of doctors and nurses and a discussion of what they are doing and why. What are these people doing? Why? What color clothes are they wearing? Why are they taking care of the people? Why are the people in bed? What are some things which will make the people better? What is a hospital? Why do you go there? Who takes care of you?

Bring a doctor's bag to group time. Go through it with the children and talk about the pieces of equipment in it and what they are used for. Within individual egg cartons which the children can paint construct a doctor or nurse kit. A tongue depressor can be turned into a thermometer, an egg carton section on a strand of yarn can become a stethoscope, a white piece of paper with yarn ties can become a hat, pipe cleaners can be bent for glasses, etc. Set up a corner of your room with a bed and blankets for the hospital.

Have a doctor or nurse visit your class and show the children the real equipment that they use.

Visit a hospital. Make careful arrangements with the staff first so that they know the children are very young and will only be able to take a short tour. Explain to the staff those things which you know your children will enjoy seeing. Such things as doctors and nurses in white uniforms, a hospital bed, and the doctor's equipment may be enough for this trip.

Policemen

Goals:

The policeman is our friend.
Policemen ride in special police cars.
The cars have sirens which make noise and red lights that mean get out of the way.
Policemen help people to drive their cars the right way.
Policemen help people cross streets in the right place so that they will not be hit by cars.
Red lights means stop, green means go and yellow means watch out.
The policeman will help you if you are in trouble.
If you are lost and tell a policeman your address he will take you home.

Activities:

From the library get pictures and books about policemen in action. Use books which were written for older children which have good photographs in them. Instead of reading the words to the children talk about the pictures and what they see in them.

Flash the three traffic light colors and have the children tell you what to do. Have them march around the room and drive their cars and do what the lights say.

Go for a walk to a near corner with a traffic light. Observe what the cars are doing and why.

Have a policeman visit your classroom. Talk about his clothes, what color they are, and his badge. Go outside and look at his car, its radio, siren and lights. Ask him for lunch.

Visit a corner with a traffic lady and determine what she does with children.

Firemen

Goals:

Firemen put out fires.
Their trucks are red.
Their coats are bright yellow so we can see them in the fire.
Fire is dangerous because things burn down and people can get hurt.
Water puts out fire.
Water comes from hydrants and goes through hoses.
Special things inside a fire extinguisher can also put out fires.
Firemen's clothes help protect them from fires.
They live at the firehouse during the night so that they can go to a fire if there is one.
When there is a fire we go away from it and tell a grown-up quickly so they can call the firemen.
Fire trucks have red flashing lights so people will get out of their way.
Fire trucks have ladders for the men to climb on so they can squirt water at the top of the fire.

Activities:

If the teacher is careful she can show the children how to put out a fire. Begin with a large metal pan and some paper in it. Show the children some matches. Ask what they are for. Ask who are the only people that should use them and why. Should children use them? Would they burn you easily or make something else burn? Repeat often during the time spent talking about firemen that matches are to be given to adults. Light the paper. Have a spray bottle of water. Spray the flames. Ask the children what has happened. The success of showing children how firemen put out fires depends upon the teacher's ability to impress the children with the danger of using matches.

Visit your neighborhood hydrant. Discuss the name of it and what the firemen use it for.

Bring in a play fire truck. Discuss the color, the ladder, hose, etc. Instead of saying this is a ladder, this is a hose ask the children what do you think this is for?

Practice fire drill. This should already be established with your children but re-emphasize it.

Get books which show firemen in action. Discuss with the children what they are doing and why they are doing it.

Visit the firestation. Be sure that the firemen know the age of your children so that they can plan a trip that is geared to their attention span.

Set up a fire engine and fire hats in dramatic play area so that the children may be firemen.

Transportation

Goals:

For each type of transportation which you wish to cover with the children form goals which cover their being exposed to the name of the type of transportation (a boat), special parts of it (deck, sail, oars), special conditions about it (used in water), special people connected with it (captain, sailor), what these people do, and what we use this type of transportation for (carrying goods and people).

Activities:

Introduce one type of transportation at a time through the use of pictures and stories in group time as well as toys which represent that type of transportation. Identify with the children the various parts and with the use of models decide what these parts do. Ask the children what they would use a particular type of transportation for and what they could put into it. Set up dramatic play situations in the block corner where they can pretend they are driving trucks, riding trains, etc.

If at all possible arrange for the children to have the experience of riding in the type of transportation which you are discussing or at least to see a real one. If this is at all possible arrange for them to see it in action (visit the airport or railroad station). Provide experiences with cars, trucks, wagon, boats, trains, planes and buses.

Wind-Spring-Flowers

Goals:

You can not see the wind but you can feel it blow.
The wind moves things along when it blows.
The wind makes kites fly high up into the sky.
In the spring time the snow melts into water and sinks into the ground (depending upon location).
Trees, grass and plants wake up after resting all winter and begin to grow new leaves and flowers.
If we put seeds into the ground and give them water and sunshine they will grow into plants.
Seeds grow into plants which have stems, leaves and flowers.

Activities:

On a day when the teacher is sure that there is a wind outside she tells her children at group time that they are going to go outside because she has something special that she wants them to feel. Prepare the children that you are not going outside to play, but that you want them to come and sit with you on the grass. Once outside have them close their eyes and tell them that you want them to be very quiet and see if they can feel anything tickling their faces. Is anything pushing their hair? After a moment ask the children what it is they feel and when they answer or you give them the answer ask them if they can see the wind. Have jars of bubble solution with you. Open one and blow some bubles. Ask the children what is moving the bubbles away? Provide bubbles for all the children to use.

Have pictures of children with kites for group time and talk about what the children see in them. Provide paper hankies for the children and after they have spread out somewhat wave a magic wand and turn them into winds. Toss a paper hanky into the air and ask them how they think that they could be the wind and keep it moving. If it does not occur to them to use their breath show them how you are going to keep yours up and then let them all try. Provide manufactured kites or make kites out of paper so the children may have the experience of getting them up in the wind outside. Be sure that you pick a day for this experience when there is wind.

Bring a branch off an early budding tree into class and note with the children that it is still like it was last fall when all the leaves fell on the ground. Point the buds out to the children and have them feel the bump on the branch where the bud is. Place the branch in a jar of water near the window and ask the children to watch it each day they come to school. As the leaves emerge note their size and growth each day and the fresh color of green which they are. Take a walk with the children to observe leaves and flowers blooming in the neighborhood. Ask the children why they have stopped wearing some of their heavy winter clothes to school. While outside feel with them the warmth of the sun and mention how

it keeps them warmer with fewer clothes on and makes the new leaves and flowers warm too. Bring other flowering shrubs and branches into the classroom and watch them open.

Purchase with the children seeds of plants or flowers which they are familiar with. Examine the seeds with the children. Place celery in colored water and watch with the children as the celery drinks the water. Ask the children where they think the seeds should be planted. Plant some outside the classroom if possible and some in dishes within the room. Pick seeds such as beans or marigolds which you know will grow quickly. As the seeds grow and plants develop sacrifice a few to examination. What holds the plant in the ground? Pull one out to see. Where are the leaves? What does the stem do? Place one plant in the closet. When it has shriveled somewhat from lack of sunlight look at it with the children and then place it in the sun and note its revival. Skip watering a plant for a day or so. What happens? How could we help this plant?

Farms

Goals:

The farm is a place where plants are grown and animals live.

The farm is run by the farmer. He takes care of the plants and the animals.

In the spring he plants the seeds in the field.

He uses a tractor and other equipment to plant the seeds.

He takes care of them all summer long while they grow.

Some farmers raise animals like cows and sheep.

The animals live in a big, red barn.

In the day time they go to the fields where they eat grass.

The cow gives us milk and meat.

We can make ice cream, cheese and butter from milk.

Activities:

As you examine the plants which the children have planted gradually introduce pictures and stories about the farmer who also plants seeds. Talk about the equipment that he must use because he plants so many seeds.

Introduce a red barn and rubber animals which live in it. Talk about one animal at a time. Although the only goals with this unit are the ones which speak about the cow develop your own goals with this unit for other animals which you wish to cover. Provide concrete experiences for the children so that they may make butter or ice cream from milk, feel wool as it comes from the sheep, etc. If at all possible take the children to a real farm so that they may see the large fields which the farmer has and the barn where he keeps his animals. If this is impossible search zoos nearby you for the one which has a domestic animal section. The children must really experience animals in the concrete before they become a reality to them.

This unit is rich with vocabulary. For example, the names of adult animals and the names of the young, the sounds that animals make, the things that they give to use. It also provides many opportunities for the children to imitate animals which they have come to know with or without music.

Zoo Animals

Goals:

There are many animals that live in the forest and jungles and not on the farm.

These animals are wild.

A wild animal is not used to being near people and is afraid of them. Because of this he may hurt them because he does not know that they will not hurt him.

Some wild animals are in zoos so that we may look at them and learn about them.

Activities:

Introduce a different wild animal with pictures and stories during group time until the children have a picture knowledge of several animals. Ask such questions as what color is this animal, what is different about him (long nose, neck, etc.), is he big or little, etc. When the children have talked about several animals in group time and have had opportunities during free play time to further look at pictures, stories and wooden or rubber animals take them to the zoo. The more adults that can go along on this trip and the fewer children each one has the greater the opportunities for talking about the individual animals in the zoo, naming them and pointing out how they are like the pictures and stories about them.