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A prescriptive guide to successful home and classroom visual perceptual training

Abstract

A prescriptive guide to successful home and classroom visual perceptual training

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A PRESCRIPTIVE GUIDE TO SUCCESSFUL HOME AND CLASSROOM VISUAL PERCEPTUAL TRAINING

Presented by: Karen Wasylyshyn, O.D.

A thesis submitted in partial fulfillment
for the degree
Master of Education, Visual Function in Learning
at Pacific University

COMMITTEE MEMBERS:

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Chair: A. McClain, Ed. D.

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A PRESCRIPTIVE GUIDE TO SUCCESSFUL HOME AND CLASSROOM VISUAL PERCEPTUAL TRAINING

ADVISORS:

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P. Kohl, O.D. — Date: 12-15-93

A. McClain, Dept. of Educ — Date: 12/15/93

ACKNOWLEDGMENTS

This project is dedicated to all those children who have perceptual difficulties which may be affecting their ability to learn and to read. Furthermore, this project is dedicated to those parents and teachers who wish to be actively involved in a child's perceptual development. It is the intention of this project to help guide parents and teachers through perceptual skill remediation. I hope the guide provides enjoyment as well as productive results!

I would like to thank all of the individuals who have helped me through this project. I really appreciate everyone's patience and cooperation. I would like to thank Susi Huegler for her generosity and extended use of her computer and I wish to thank Cindy Wasylyshyn for her assistance with the printing of this project.

I would also like to extend a special thanks to my advisors who have been very patient with the long distance correspondence and the inconveniences this may have caused. It has been very inspirational to work with such knowledgeable individuals both in classroom and on this project. All of your input and assistance is greatly appreciated.

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INTRODUCTION: A PRESCRIPTIVE PROGRAM

A Prescriptive Guide to Successful Home and Classroom Visual Perceptual Training was developed to help children with visual perceptual difficulties. Once a child's visual perceptual skills have been assessed and limitations have been identified, this prescriptive guide outlines strategies to strengthen any weaknesses. The guide is designed to help children with weaknesses in any of the following skill areas: visual discrimination, figure ground discrimination, visual closure, visual sequencing, visual memory, visualization, directionality, laterality, gross motor integration and fine motor integration. The activities recommended in this guide are designed to be used either at home or in the classroom with the involvement of parents and teachers.

Learning to read can be a difficult process for a child. There are many factors that contribute to the ease or perhaps the difficulty with which a child learns to read. Visual perceptual skills comprise one important area that can affect this process. The purpose of this guide is to focus on visual perceptual skills as they relate to the process of learning. Once it has been determined that a child is weak in a particular perceptual skill area, this guide serves as a resource for remediation of deficits. This guide emphasizes a team effort from parents and teachers to help a child develop adequate skills. Parents, teachers and optometrists can work together to develop visual perceptual skills important for a child's ability to learn.

WHAT IS VISUAL PERCEPTION and HOW DOES IT AFFECT LEARNING?

Perception may be defined as the "recognition and differentiation of stimuli that requires synthesis with previous experiences" 1. Perceptual skills enable us to identify and interpret our environment and play an important role in the processes of understanding and learning.

Visual perception is the understanding of what we see. It is the ability that allows us to use visual information in a meaningful way. Visual perceptual skills allow us to recognize and understand our visual environment. Visual perception involves the integration of visual input with information from the other senses such as hearing, taste, smell and touch as well as with information from the centers of coordination and balance .

Visual perception is a learned process 2 in which skills are developed through early learning experiences 3 . These early experiences aid in the recognition and interpretation of new visual stimuli. Hence visual perceptual skills and the early experiences which shape one's skill level become very important in a child's ability to understand and learn about the environment in which that child lives and functions. Perceptual skills are a necessary component of the process of learning. The easier it is for us to identify and interpret information (ie. perceive), the easier this learning and thinking process becomes 4 .

Visual perceptual skills are important in learning to read and to solve mathematics because these perceptual skills are what enable us to attach a name or symbolic meaning to a letter or number. Without adequate basic perceptual skills, the ability to derive meaning from a group of letters such as a word or groups of numbers in an equation can be a difficult task. For the beginning reader who is just learning to read, most of their time is spent decoding the individual letters and groups of letters to form words. Decoding skills are very important at this stage; likewise are the visual perceptual skills that are basic to this decoding process. For the experienced reader who has had repeated exposure to words, the primary purpose of reading is to learn. At this stage decoding becomes an automatic process; consequently, most of their time is spent gathering information about relationships of the words and ultimately comprehending the reading material [5, 6].

Visual perceptual skills seem to be most important in the early years of learning to read [7,8]. From the moment that a child is born, that child begins the journey of perceptual learning with the greatest perceptual growth occurring between the ages of three and seven and a half years [9,10]. This is the period before a child enters school and during the early elementary years from kindergarten to grade three. Because most of this perceptual learning occurs at such an early age, it is important that perceptual problems are identified early.

It has been estimated that approximately 75-90 % of what we learn comes from visual information and the visual pathway [11]. This visual learning process involves both visual and perceptual

skill abilities. Accordingly, a child should have both adequate visual and perceptual skills. If a child has poor visual and/or perceptual ability, this may have an affect upon a child's ability to learn to read. This is the basis for why many optometrists are concerned with the influence that ocular and visual impairments may have with respect to reading and learning problems [12].

Children develop in stages [13]. Although there tends to be a range of normal variability [14], a pattern of development of skills seems to occur. Knowledge of this normal pattern of development helps to establish expected developmental norms [15]. Development can be viewed as "a total process of experiencing and integrating all of the activities and characteristics inherent in the sequences of normal healthy growth [16]"; hence, a child with a normal, healthy growth sequence should develop visual, perceptual and motor skills appropriate for success in the demanding contemporary classroom. A child with normal development is usually ready for the process of learning to read. On the other hand, a child who is delayed in visual, perceptual, and/or motor development may not have developed the skills needed for the reading process. This child often experiences much frustration when trying to learn to read. These children with immature visual perceptual and motor skills often have difficulties in keeping up with school expectations [17]. Because most of this perceptual learning occurs at such an early age, it is important that any perceptual difficulties be identified and remediated likewise at an early age.

OVERVIEW OF VISUAL PERCEPTUAL SKILLS:

Visual perception is the ability to recognize and identify what we see in our environment. As a child grows, he/she is constantly gathering information about the environment. The child must analyze and integrate all this visual information. There are many different skill areas involved in this complex process of visual perception. The following is a brief overview of the different visual perceptual skills that are emphasized in this prescriptive guide 18,19,20,21,22. A more thorough description of each skill area will be contained in subsequent chapters.

Visual analysis is a general term used to describe the examination of visual details as well as the determination of how all the details interrelate . This ability to analyze is the basis for several visual perceptual skills referred to as visual discrimination, figure ground discrimination and visual closure. These analysis skills are important in form perception and form constancy so that an object can be recognized regardless of variation in size, shape, color, brightness or position.

Aspects of Visual Perception:

1. Visual discrimination is the ability to visually distinguish objects from one another. It is the skill of recognizing similarities and differences. It can be based on factors such as size, shape, color, texture, brightness and orientation.

2. Figure ground discrimination is the ability to separate what you are looking at from its background. It is the ability to

center attention and identify the main object of concern despite surrounding details. It requires identifying and distinguishing central characteristics of an object from those characteristics that are a part of the background.

3. Visual closure is the ability to perceive a whole object from analysis of a few parts. It is the recognition of an object when the object is not seen in its entire form.

A child gathers information by physically moving through the environment.

4.Visual motor integration skills refer to the ability to coordinate vision with movements of the body or parts of the body. This integration of vision and motor skills affects both balance and eye-hand coordination.

5. Gross motor skills refer to movements of large muscle groups such as the arms and legs.

6. Fine motor skills refer to movements of small muscle groups such as the fingers.

The Laterality and Directionality

Another important area of visual perception involves position in space and spatial relationships. There are two essential visual spatial skills: *The Laterality and Directionality*.

7. Laterality refers to bodily awareness and the ability to feel "inner directions" of the body. It is the ability to recognize the left and right sides of the body.

8. Directionality refers to the ability to perceive the relationship of the "inner directions" of the body to an object in space.

Other Visiual Perceptual Skills

Visual perception is a process of gathering and analyzing information. It often requires integration with past experiences. Information then must be retained and stored.

9. Visual memory is the ability of the brain to hold visual information for short term or long term recall.

10. Visual sequencing refers to the ability to do a task in a correct step by step order.

11. Visualization Is the ability to form a mental image of an object when the object is not actually present to the eyes.

HOW ARE VISUAL PERCEPTUAL SKILLS ASSESSED:

The assessment of perceptual abilities can involve teachers, reading specialists, school counselors, school psychologists and optometrists. Many tests are available to help assess perceptual skills. The following is a list of commonly performed perceptual tests:

Visual discrimination testing:

Visual-Motor Integration (Beery, Buktenica)

Age specific: Grade 2-8

Material source: Follett Publishing, OEP (Optometric Extension Program)

Motor-Free Visual Perceptual Test -MVPT (Colarusso, Hammill)

Age specific: Age 4-8

Material source: Academic Therapy Publications, OEP

Test of Visual Perceptual Skills -TVPS (Gardner)

Age specific: Age 4-12

Material source: OEP

Winterhaven Perceptual Copy Forms

Age specific: Age 6 - 8 1/2

Material source: Winterhaven Lions Publications

Incomplete Man

Age specific: Age 2 1/2 - 8

Material source: Gesell Institute of Child Development

Wold Sentence Copy

Age specific: Grade 1-6

Material source: Gesell Institute of Child Development, Academic

Therapy Publications

Test of Visual Analysis Skills -TVAS (Rosner)

Age specific: Age 4-8

Material source: OEP, Academic Therapy Publications

SUNY Perceptual Testing Battery : Circle Puzzles, Copy Forms, Pegboard

Age specific: approx. Age 2-8

Material source: Irwin Suchoff, State College of Optometry

Figure ground discrimination testing:

Visual-Motor Integration (Beery, Buktenica)

Age specific: Grade 2-8

Material source: Follett Publishing, OEP

Motor-Free Visual Perceptual Test -MVPT (Colarusso, Hammill)

Age specific: Age 4-8

Material source: Academic Therapy Publications, OEP

Test of Visual Perceptual Skills -TVPS (Gardner)

Age specific: Age 4-12

Material source: OEP

Winterhaven Perceptual Copy Forms

Age specific: Age 6 - 8 1/2

Material source: Winterhaven Lions Publications

Wold Sentence Copy

Age specific: Grade 1-6

Material source: Gesell Institute of Child Development, Academic

Therapy Publications

Test of Visual Analysis Skills -TVAS (Rosner)

Age specific: Age 4-8

Material source: OEP, Academic Therapy Publications

Visual closure testing:

Motor-Free Visual Perceptual Test -MVPT (Colarusso, Hammill)

Age specific: Age 4-8

Material source: Academic Therapy Publications, OEP

Test of Visual Perceptual Skills -TVPS (Gardner)

Age specific: Age 4-12

Material source: OEP

Test of Visual Analysis Skills -TVAS (Rosner)

Age specific: Age 4-8

Material source: OEP, Academic Therapy Publications

Gross motor integration testing:

Winterhaven Perceptual Copy Forms

Age specific: Age 6 - 8 1/2

Material source: Winterhaven Lions Publications

Bender Motor Gestalt Test

Age specific: Age 4-8

Material source: Western Psychological Services

Purdue Perceptual Motor Survey

Age specific: Age 6-10

Material source: Charles E. Merrill Publishing Co.

SUNY Perceptual Testing Battery : Standing Angels in the Snow, Chalkboard Circles, Alternate Hopping

Age specific: approx. Age 2-8

Material source: Irwin Suchoff, State College of Optometry

Fine motor integration testing:

Visual-Motor Integration (Beery, Buktenica)

Age specific: Grade 2-8

Material source: Follett Publishing, OEP

Winterhaven Perceptual Copy Forms

Age specific: Age 6 - 8 1/2

Material source: Winterhaven Lions Publications

Incomplete Man

Age specific: Age 2 1/2 - 8

Material source: Gesell Institute of Child Development

Wold Sentence Copy

Age specific: Grade 1-6

Material source: Gesell Institute of Child Development, Academic

Therapy Publications

Test of Visual Analysis Skills -TVAS (Rosner)

Age specific: Age 4-8

Material source: OEP, Academic Therapy Publications

Bender Motor Gestalt Test

Age specific: Age 4-8

Material source: Western Psychological Services

Purdue Perceptual Motor Survey

Age specific: Age 6-10

Material source: Charles E. Merrill Publishing Co.

SUNY Perceptual Testing Battery : Copy Forms, Pegboard

Age specific: approx. Age 2-8

Material source: Irwin Suchoff, State College of Optometry

Laterality and directionality testing:

Jordan Left/Right Reversal

Age specific: Age 5-12

Material source: Academic Therapy Publications

Test of Visual Perceptual Skills -TVPS (Gardner)

Age specific: Age 4-12

Material source: OEP

Piaget Right/Left Awareness Test

Age specific: Age 5-11

Material source: Academic Therapy Publications

Reversal Frequency Test (Gardner)

Age specific: Age 5-14

Material source: Creative Therapeutics

Winterhaven Perceptual Copy Forms

Age specific: Age 6 - 8 1/2

Material source: Winterhaven Lions Publications

Incomplete Man

Age specific: Age 2 1/2 - 8

Material source: Gesell Institute of Child Development

Wold Sentence Copy

Age specific: Grade 1-6

Material source: Gesell Institute of Child Development, Academic

Therapy Publications

Test of Visual Analysis Skills -TVAS (Rosner)

Age specific: Age 4-8

Material source: OEP, Academic Therapy Publications

SUNY Perceptual Testing Battery :Pegboard, Copy Forms, Circle Puzzle, Alternate Hopping, Standing Angels in the Snow

Age specific: approx. Age 2-8

Material source: Irwin Suchoff, State College of Optometry

Visual memory testing:

Motor-Free Visual Perceptual Test -MVPT (Colarusso, Hammill)

Age specific: Age 4-8

Material source: Academic Therapy Publications, OEP

Test of Visual Perceptual Skills -TVPS (Gardner)

Age specific: Age 4-12

Material source: OEP

Purdue Perceptual Motor Survey

Age specific: Age 6-10

Material source: Charles E. Merrill Publishing Co.

Monroe Visual III

Visual sequencing testing:

Motor-Free Visual Perceptual Test -MVPT (Colarusso, Hammill)

Age specific: Age 4-8

Material source: Academic Therapy Publications, OEP

Test of Visual Perceptual Skills -TVPS (Gardner)

Age specific: Age 4-12

Material source: OEP

Visualization:

SUNY Perceptual Testing Battery : Pegboard

Age specific: approx. Age 2-8

Material source: Irwin Suchoff, State College of Optometry

Other Commonly Used Visual Perceptual Tests:

-Frostig Development Test of Visual Perception

-Getman Visual Memory Test

-Gesell Copy Form Test

-Minnesota Percepto-Diagnostic Test (MPD-R)

-Santa Clara Inventory of Developmental Tasks

RESOURCES for VISUAL PERCEPTION MATERIALS

There are many sources that parents and teachers can contact for information regarding visual perception. Materials are available regarding testing and assessment; remediation and skill builder activities; and general descriptive information. The following is a list of organizations to contact for information on visual perceptual materials:

1. *Academic Therapy Publications*
   20 Commercial Blvd., Novato, CA 94949
   Materials: testing, remediation, general
2. *Gesell Institute of Child Development*
   310 Prospect St., New Haven, Conn 06511
   Materials: testing
3. *Optometric Extension Program (OEP) or Vision Extension, Inc.*
   2912 South Daimler St., Santa Ana, CA 92705
   Materials: testing, remediation, general
4. *Bernell Corporation*
   750 Lincolnway East, South Bend, IN 46618
   Materials: testing, remediation, general
5. *Slosson Educational Publications*
   140 Pine St., E. Aurora, NY
   Materials: testing, remediation
6. *Developmental Learning Materials (DLM)*
   P.O. Box 4000, One DLM Park, Allen, TX 75002
   Materials: testing, remediation
7. *Percon*
   3537 Looker Avenue, Akron, OH 44319
   Materials: testing
8. *Creative Therapuetics*
   155 Country Road, Cresskill, NJ 07626
   Materials: testing

9. *Efficient Seeing Publications*
   PO Box 181, Aptos, CA 95003
   Materials: testing, general
10. *E.D.L*
   PO Box 210726, Columbia, SC 29221
   Materials: testing

WHAT IS THE ROLE OF PARENTS, TEACHERS, and OPTOMETRISTS IN THE DEVELOPMENT OF VISUAL PERCEPTUAL SKILLS?

THE PARENTS ROLE:

Parents can play an important role in the development of their child. The parents can contribute to the early experiences that help guide and foster the normal development of the child. This involves providing the proper nutrition and environment for the child to grow in. Parents also have an important task of observing a child's development and then comparing these observations to developmental norms [23]. In this manner parents can help in the detection of development abnormalities.

With regard to visual perceptual functioning, a parent can help determine if a limitation in visual perception exists. By interacting with a child or simply watching a child, parents often observe behaviors associated with poor visual perceptual ability. Parents can help with the diagnosis of visual perceptual problems by observing behaviors. There are many checklists available for parents to use which assist in providing an organized inventory of observations of visual behaviors that may interfere with a child's school performance [24,25].

If a child is suspected of having any limitation, it is the parents responsibility to ensure that proper measures are taken to adequately evaluate any problem areas. Once a visual perceptual skill limitation has been diagnosed, the parents can get involved with their child's remediation program. This can involve organizing,

demonstrating, motivating and encouraging the child to participate in the remediation exercises.

THE TEACHER'S ROLE:

A teacher should be aware of the child's abilities including strengths and weaknesses. It is a teacher's role to help identify a child that is not keeping up with the other children and may have special needs. It is the teacher's responsibility to determine limitations in ability and take appropriate action to help develop adequate skills. This is the basis of a diagnostic/prescriptive teaching program [26]. If a teacher is unsuccessful in the classroom at improving such skills, the teacher may have to use resources beyond the scope of the classroom. This may involve making referrals to appropriate professionals. By making referrals, teachers can be an essential link between family, optometrists and other services providers.

A teacher is in a unique position to help detect symptoms of visual and perceptual problems. By recognizing behaviors and observations associated with poor skills, a teacher can help determine whether a visual perceptual limitation exists. Again, there are many checklists available to help teachers with this process [27,28,29]. If a limitation of visual perceptual functioning is diagnosed, then teachers can play an important role in the remediation of these skills. This involves understanding the limitation and attending to any special needs the child may have as a result of this limitation. For the classroom teacher this may include incorporating educational strategies such as modifying the child's school environment and the use of materials and assignments

to help the child deal with the visual perceptual limitation.[30,31] Furthermore,a teacher can help partake in a child's remediation program. A teacher can be a tremendous asset to a visual perceptual training program by organizing, demonstrating, administrating and motivating a child to participate in prescribed remedial activities.

THE OPTOMETRISTS ROLE:

An optometrist specializes in vision. They are involved in the diagnosis and remediation of problems with vision. Optometrists do more than prescribe a pair of glasses or contact lenses. They are involved in total vision care. To understand the role of an optometrist, it is important to understand what is meant by the term vision. Vision is not merely how well a person can see (ie. eyesight or visual acuity) rather vision refers to the entire visual system including internal and external health, refractive status, focusing ability, eye teaming ability, depth perception, eye movements, color vision as well as visual perceptual functioning. The role of the optometrists includes diagnosis and remediation of conditions associated with the total visual system.

The optometrist plays an important role in determining if there is a visual and/or visual perceptual problem in children with learning problems. The optometrist's role can include assessing visual perceptual skills as well as guiding the remediation of any perceptual difficulties. Although it is not standard practice for all optometrists to assess visual perceptual skills, there are many optometrists who do evaluate visual perceptual skills. Furthermore, many optometrists can provide treatment through visual/perceptual therapy. Remediation strategies for visual perceptual functioning

can consist of formal, in-office therapy programs established by the optometrist, or home and classroom therapy programs involving the optometrist, parents, teachers and other professionals like occupational therapists and physical therapists working as a team.

Harold Solan in the article "Visual perception and learning: issues and answers" comments that "the treatment of underlying perceptual deficits complements the educational process by improving visual organization, attention and information processing in those children who manifest difficulties in these attributes. The purpose of optometric intervention, therefore, is to enable the child to respond more effectively to classroom instruction." 32

MOTIVATING A CHILD: Strategies to improve the learning environment

Motivation is a "complex of attitudes, values, interests, knowledge, skills and personal needs and is one of the keys to success in learning. [33]" Motivation is important in the success of a visual perceptual therapy program. There are many strategies used by parents, teachers and optometrists to help motivate children. [34,35] It may be necessary to incorporate several approaches in order to find the best techniques that works for a particular child.

Here are some helpful hints:

*Try to develop a consistent routine for doing activities. This includes selecting a specific time for daily training. Try to establish a consistent time by discussing this with the child and determining when is most appropriate for both you and the child.

Activities should be performed when both the child and parent/teacher are available and interested.

*Provide moral support to the child. This means being patient and understanding a child's limitations. The child may struggle to accomplish given tasks and may need moral support to help with that struggle.

*Try not to appear very demanding. Be firm with the child as this may be necessary to encourage the child to participate and pay attention.

*Try to minimize household and classroom distractions. This will help get the child's attention with an activity.

*Reward good behaviors. Develop some form of a reward system to help motivate a child to participate.

*Provide positive feedback. Frequent, consistent, immediate positive feedback is very important in motivating a child. The following is a list of words to use to with children to show positive recognition[36]:

Good

Great

Keep it up

That's right

You're doing a good job

Good work

That is great

Great thinking

Fantastic

Outstanding

Keep on trying

I am very proud of you

You did that very well

*Allow the child to be creative! Modify activities to suit the interests of the child. Allow the child to think of ways to do this!

*Try to have a good time and make the activities fun for everyone!

SUGGESTED READINGS FOR PARENTS AND TEACHERS:

1. Pamphlet: "Educator's Guide to Classroom Vision Problems"

Available through: Optometric Extension Program Foundation for Education.

2. Fact sheet: "Learning Related Visual Problems. "

Available through: ERIC Clearinghouse on Handicapped and Gifted Children. Fact Sheet

3. "Developing Your Child For Success" by Kenneth Lane

Available through: Optometric Extension Program

4. "Your Child's Vision: A Parent's Guide to Seeing, Growing & Developing."by Richard Kavner

Available through: Optometric Extension Program

5. "Children Must Be Taught How to See". by Dale Hudson

Available through: Optometric Extension Program

6. "Suddenly Successful Student: A Guide to Overcoming Learning & Behavior Problems". by H. Dawkins, E. Edelman, C. Forkiotis

Available through: Optometric Extension Program

7. "Thinking Goes to School". by H. Furth & H. Wachs Available through: Optometric Extension Program

8. "How to Developing your Child's Intelligence" by G. Getman

Available through: Optometric Extension Program

9. "Enhance your child's development." by E. Rowley

Available through: Optometric Extension Program

10. "Helping Children Overcome Learning Difficulties" by J. Rosner

Available through: Academic Therapy Publications

HOW TO USE THIS GUIDE: BASIC ASSUMPTIONS

Assumption: Visual perceptual skills are learned. Visual perceptual skills can be developed through experience.[37]

The basis of this guide is that a child must actively participate in appropriate experiences to help develop normal visual perceptual skills. This guide provides activities to help develop such skills.

Assumption: This guide assumes that a visual perceptual limitation has been previously assessed or diagnosed.

The guide focuses on the remediation of visual perceptual problems and assumes that other factors such as hearing and speech disorders have been properly assessed and managed accordingly.

Assumption: Teachers and parents can actively help in the remediation of a visual perceptual problem.

The guide provides activities for parents and teachers to use with a child to help build visual perceptual skills. The activities are adaptable to both home and classroom. Furthermore, the guide provides parents and teachers with definitions of visual perceptual skills and descriptions of how a limitation in the skill can affect the child's ability to learn. This will help parents and teachers to

understand what the deficit is, what needs to be done, why and how to do it.

Assumption: A child may have one or more areas of visual perceptual limitations.

Although this guide describes the visual perceptual skills as separate entities, it is important to understand that there is often overlap. For example, a child with poor spelling may have a weakness in visual memory, visualization, and visual sequencing. It is therefore important to build all these skill areas. Parents and teachers should not be surprised when the child has several areas of limitation. Many of the activities outlined in this guide serve to build several skill areas, although the activity may be designed with one particular skill area in mind.

Assumption: Motivation is one of the keys to success in learning.[38]

This guide attempts to provide activities and strategies that are interesting and challenging for the child. The guide encourages creativity! The guide outlines ways to help motivate children to participate and to help find ways to make the activities more enjoyable for the child.

VISUAL PERCEPTUAL SKILL AREAS
THE GUIDE FORMAT:

There are 9 skill areas that are emphasized in A Prescriptive Guide to Successful Home and Classroom Visual Perceptual Training. Each skill area is presented in a simple, easy to use format. For each skill area, the following information is provided:

1. A definition of the skill and description of how this skill relates to learning and reading.

2. A list of observations and behaviors often associated with a deficiency in that particular skill area

3. Classroom and learning strategies to provide an environment better suited for a child with a skill deficiency

4. Home and classroom skill building activities

The visual perceptual skill areas emphasized in this guide are

VISUAL DISCRIMINATION
FIGURE-GROUND DISCRIMINATION
VISUAL CLOSURE
VISUAL SEQUENCING
VISUAL MEMORY
VISUALIZATION
LATERALITY & DIRECTIONALITY
VISUAL MOTOR INTEGRATION: *-FINE MOTOR*
-GROSS MOTOR

Definitions:

A definition of each of these skill areas is provided as well as a description of how the skill relates to learning and reading. This

information helps a parent or teacher to understand the implications of a deficiency in a particular skill area.

Observations and behaviors associated with poor skills:

There are characteristic behaviors that are often associated with a particular perceptual difficulty [39,40]. There are many behaviors that may become manifest as a result of a visual perceptual deficit. These behaviors demonstrate that there are many ways that a perceptual problem can impact upon learning. Knowledge of these behaviors helps to make teachers and parents better observers of a child's development. By noting these behaviors and reporting them to appropriate professionals, a teacher or parent can be a tremendous asset in the detection and diagnosis of a child with a perceptual problem. A word of caution: diagnosis of a visual perceptual deficit should not be attempted based on observation of any of these behaviors alone.

Classroom techniques and educational strategies:

A child who has a visual perceptual difficulty may benefit from modifications in the classroom. The guide provides educational strategies to help a child learn [41,42]. These strategies do not replace any treatment or remediation programs; rather they represent suggestions of how to make a child's environment more comfortable and suitable for a child to learn, until that child develops adequate skills.

Home and classroom activities:

The guide includes and describes in detail a number of activities to help strengthen a particular perceptual skill. These activities provide ways in which parents and teachers can get involved in the remediation of a child's visual perceptual limitation. Many of the activities involve direct parent or teacher interaction with the child. Some of the activities are structured in the form of games to play with the child. These activities represent an enjoyable manner in which a child can learn specific perceptual skills.

These activities are also designed to be practical and cost efficient. Parents and teachers do not have to purchase sophisticated or expensive equipment to help in the remediation process. The materials used to perform many of the activities are simple household items. The guide makes suggestions as to how to modify the activities and materials for extended use.

Activities to help build a particular visual perceptual skill area are organized in the following manner:

1. Name of the activity
2. Purpose of the activity
3. Materials required
4. Directions on the how to perform the activities
5. Suggestions on how to modify the activities
    - making transitions from easier to hard
    - listing of different materials to use

Overview of materials:

The following is a list of some of the materials that are needed to perform the activities.

building blocks
string
paper
flashlight
newspaper
comic books
chalk
blind-fold
masking tape
playground ball
jumping rope
metronome
coins
scissors
pen/pencils/colored markers
colored beads
deck of cards
tweezers
blackboard
magazine pictures
bean bags
2 x 4 board
fabric

Children's workbooks including:

coloring books
dot-to-dot books
find the hidden object books
maze books
word find books
Michigan tracking workbooks

There are some additional materials that may be necessary to perform some of the activities. This includes:

sight word list -Ekwall Basic Sight Word List 43
letter chart

alphabet letter sheet

directional arrow chart

directional "C" chart.

** For convenience, these are all contained in the guide appendix.

RECORDING SHEET:

When working through a training program, it is often helpful to monitor performance and participation. This can be accomplished by using a recording sheet. An example recording sheet is contained in APPENDIX A. This sheet provides an opportunity to record the date and activities performed as well as any comments as to how the activities went on that particular day.

These types of recording sheets help strengthen the relationship with the patient since they provide a means of graphically illustrating progress. They are also a way of tracking performance and any improvements.

GENERAL CONSIDERATIONS:

When working through the activities, try to make them fun and interesting for the child. Ask the child for his/her suggestions and ways to modify the game. Start at a level which the child can understand and successfully complete. Then work at levels which represents a challenge to the child, yet is not too frustrating. Try to use positive reinforcement to help build a child's confidence and competence. Try to incorporate many of the activities into the

child's daily routine. As visual perceptual skills are learned behaviors, skill development is enhanced through repetition. It is important to allow the child to have fun with the activities. Allow the child to be creative and to grow!

GENERAL REFERENCES FOR ACTIVITIES

References for visual perceptual activities:

Institutions:

Pacific University College of Optometry
Vision Therapy Clinic
Forest Grove, OR

Books:

Better Learning: How to help students of all ages overcome learning problems and learning disabilities.
by R. Young & H Savage
Prentice-Hall

Thinking Goes to School: Piaget's theory in practice.
by H. Furth & H Wachs
Oxford University Press

Children must be taught how to see.
by D. Hudson D
Vision Extension Inc.

Developing Your Child For Success.
by K. Lane, K.A.
Learning Potentials Publishers, Inc.

Games for Growing Children: An Illustrated Guide for Teachers and Parents
by M. Wirth
Parker Publishing Co.

Remediation of Reversals
by A. Kirshner
Academic Therapy Publications

VISUAL DISCRIMINATION

DEFINITION: Visual discrimination is the ability to visually distinguish objects from one another. It is the ability to detect similarities and differences between objects. It is the ability to identify matching figures from those that are unalike. It is a skill involving feature detection and analysis. It can be based on factors such as size, shape, color, texture, brightness and orientation. 44,45

Visual discrimination skills are needed to help organize and integrate new information with past experiences. It is a skill that allows us to distinguish amongst graphic shapes,forms, symbols, letters and words. In order to read, a child must be able to recognize similarities and differences between letters as well as words. Visual discrimination is a skill that permits us to differentiate between letters such as "b" from "d" and words such as "than" from "then".

Visual discrimination is also an important part of a concept called perceptual constancy. This refers to the ability to recognize an object regardless of any variation in size, shape, color or orientation 46. For example:

a a a **a**

This letter should be recognizable despite the variation in size.

Visual discrimination skills are part of the foundation for more complex thinking and concept development. For example, a child should be visually capable of detecting subtle differences in sizes of objects in order to be able to learn concepts such as "larger than" or "smaller than."

Observations and behaviors associated with poor visual discrimination skills:

-Confuses likenesses and subtle differences
-Mistakes words with identical or similar beginnings
-Confuses words with similar beginnings and endings
-Reverses letters and/or words in writing and copying
-Difficulty recognizing same word on same page
-Difficulty recognizing the letters of the alphabet
-Tends to over generalize in placing objects into categories

Classroom techniques to help a child with poor visual discrimination skills:

-Allow verbal and tactile reinforcement to aid discrimination
-Use tracing and copying activities
-Try to eliminate distracting materials
-Avoid poor quality copies of any handouts

GOAL of ACTIVITIES:

To improve the ability to detect similarities and differences between objects with respect to size, shape, color, and orientation.

ACTIVITIES:

1. Building blocks
2. Sorting coins
3. Strings of different lengths
4. "I spy with my little eye"
5. Alphabet tracking
6. Letter sorting
7. Matching
8. Similarities & Differences

VISUAL DISCRIMINATION SKILL BUILDING ACTIVITIES

ACTIVITY #1: BUILDING BLOCKS

PURPOSE: To improve a child's ability to recognize different shapes, sizes, thickness and colors of building blocks.

MATERIALS: Building blocks of various shapes, sizes, thickness, or colors.

PROCEDURE: Have the child organize the building blocks with regard to specific features. Have the child match objects that are similar based on certain feature(s). Start simple with only 1 feature. For example, ask the child to group all the blocks that are a circle. In this example, the size and color of the blocks does not matter. Once the child is comfortable with identifying one feature, have the child then group blocks based on 2 features. For example, have the child group all the blocks that are red and square shaped. The more features a child is asked to identify, the harder the task.

Easy to hard: -Increase the number of features to identify
-Decrease the amount of time a child is given to identify the features

Some further suggestions:

*A variation of this activity would be to pre-group the blocks by some feature(s) and ask the child why are these blocks all the same!

*Group the blocks according to 1 or more feature but include one block that does not match the others Ask the child which block does not match and why is it different.

ACTIVITY #2: SORTING COINS

PURPOSE: To improve a child's ability to recognize differences between coins

MATERIALS: Nickels, dimes, quarters, pennies

PROCEDURE: Have the child look at each coin and describe how they are different ie. size, shape, color, thickness, and designs. Then have the child sort the various coins into groups perhaps from a piggy bank or jar of coins. You can even have the child place the coins in rolls. While doing so, ask the child how are the coins different. For example, ask the child to describe in what way a quarter is different from a dime.

Easy to hard: -Increase the number of coins used
-Increase the number of features that the child is expected to identify ie. size, thickness, color, material, designs & writing on the coins

Some further suggestions:

*In addition to visual discrimination skill building, coins can be used to demonstrate the relative value of money. For example, take a nickel and explain that this is worth five pennies. Encourage the child to calculated the value of groups of coins.

*In addition to coins, paper money can also be used to build visual discrimination skills. A suggestion would be to use play money from games.

ACTIVITY #3: STRING OF DIFFERENT LENGTHS

PURPOSE: To improve a child's ability to recognize different features.

MATERIALS: Cut pieces of string into different lengths. String of different thickness, texture and color can also be used. When cutting, make differences in string length of at least 2 cm differences at first.

PROCEDURE: Start simple. Have the child tell you which string is the shortest and which is the longest. Have the child even group them in an order such as from shortest to longest. The task can be made more challenging by having the strings placed in front of the child in different orientations rather than all the strings aligned in the same direction. This can be challenging because the child has to visualize the length of the string in different positions.

Easy to hard: -Make changes in length of the strings more subtle as the child progresses in ability
-Increase the number of features that a child must identify ie. use different types of strings
-Change the orientation of the strings.

Some further suggestions:

*If the strings have other distinguishing features such as color or thickness, have the child group strings based on several features. For example, have the child point to all the thin, long strings. This activity is similar to playing with building blocks.

VISUAL DISCRIMINATION SKILL BUILDING ACTIVITIES

ACTIVITY #4: "I SPY WITH MY LITTLE EYE"

PURPOSE: To improve a child's ability to recognize and describe objects based on the visual features.

MATERIALS: familiar objects in a room

PROCEDURE: This is to be played in an area where there are several different objects to be described to the child.
Pick an object in the room but do not tell the child what it is. Instead give clues that describe the object. The key of this game is to have the child recognize the necessary features to be able to determine what the object is. After each clue, encourage the child to identify what object(s) have that feature.

Easy to hard:
- -increase the complexity of the room
  ie. increase the number of different objects in the room
- -increase the number of features and specific details about an object

Some further suggestions:

*Describe visual clues only.

*Start with clues that describe general features and then proceed to describe more specific details. The more general the feature (ie. shape, size), the more likely that there would be several objects in the room with that same feature.

*Reverse the sequence by having the child describe an object to you. Allow the child to describe many features before you correctly identify the object.

*Try to discourage random guessing rather encourage the child to identify all possible objects with that particular feature. Try to make the child understand that more clues are needed to accurately describe the object and to differentiate it from those other objects.

For example:

object = box of cereal

The clues given may include: rectangle, medium size, box, dimensions: ___ cm thick, _____ cm in height, _____cm in width, many colors including ..... , lettering on the box, actual letters visible .... etc...

ACTIVITY # 5: ALPHABET TRACKING

PURPOSE: To improve a child's ability to discriminate letters of the alphabet.

MATERIALS: Michigan tracking worksheets. Can be performed with newspapers and magazines.

PROCEDURE: With the Michigan tracking worksheet, have the child start in the upper left hand corner and scan across the random letters from left to right. The child is to circle in order each letter of the alphabet as they are found on the worksheets. Michigan tracking sheets are available in different size letters. Large sized letters should be used for children who are just learning the alphabet.

Easy to hard:
- -Decrease the size (ie. font) of the writing
- -Timing the activity and setting goals as to time expectations
- -Change the order ie. reversing the alphabet
- -Allowing the child to look at an alphabet to help guide performance then removing this guide

Some further suggestions:

*Newspapers and magazine can be used as well. However, the entire alphabet may not be readily found within a reading passage. The child should be expected to circle as much of the alphabet as possible though perhaps not the entire alphabet.

*Monitor the child's posture and extraneous body movements while performing the activity. Try to ensure that these are kept to a minimum.

ALPHABET TRACKING DEMONSTRATION

a b c d e f g h i j k l m n o p q r s t u v w x y z

Hoft arn holby kelm croe peurot. Ix
rish. Dop fult hurs lim kreph thoz
tfol krik nul guar quim. Auth quat
rulk tay suild meve neb poj durat.
Ceth boft kalb non rem turz bured
dir ench verf thay. Forg chat apite.
Bague quide tere gusk malf bache
deph lecf Wald mund newk poiv fam
wemp snal fron. Mex jop yonde baza

ACTIVITY #6: LETTER SORTING

PURPOSE: To improve a child's ability to discriminate letters of the alphabet.

MATERIALS: Letter sorting worksheets

PROCEDURE: When learning the alphabet, many letters look quite similar, however, have certain features that enable discrimination. Letter sorting exercises allow the child to determine these different features. The worksheets consist of letters that look similar. Give the child instructions regarding which letter or letters to identify. The child is to mark these letters as instructed.

Easy to hard: -Increase the number of letters the child is to identify
-Time the activity and set time expectations gradually decreasing the amount of time taken

Some further suggestions:

* This can be a timed or untimed activity.

*Variations to the worksheet can be made. For example, have the child circle all the letter "p" and draw a box around all the letter "q". Another variation would be to use different colored markers to identify different letters. For example, use a red marker for the letter "p" and a blue marker for the letter "q"

LETTER SORTING DEMONSTRATION

CIRCLE ALL THE LETTER "b".

VISUAL DISCRIMINATION SKILL BUILDING ACTIVITIES

ACTIVITY #7: MATCHING

PURPOSE: To improve a child's ability to discriminate shapes, figures and letters. To improve feature analysis skills.

MATERIALS: Any discrimination matching worksheets

PROCEDURE: To perform the worksheets, an example figure is presented. The child is instructed to look carefully at that figure. The child must then select from several figures and choose the figure which is exactly the same as the example figure.

Easy to hard: -Have the child manual trace each figure to help with the identification process then discontinue this behavior as the child proceeds.
-Time the activity

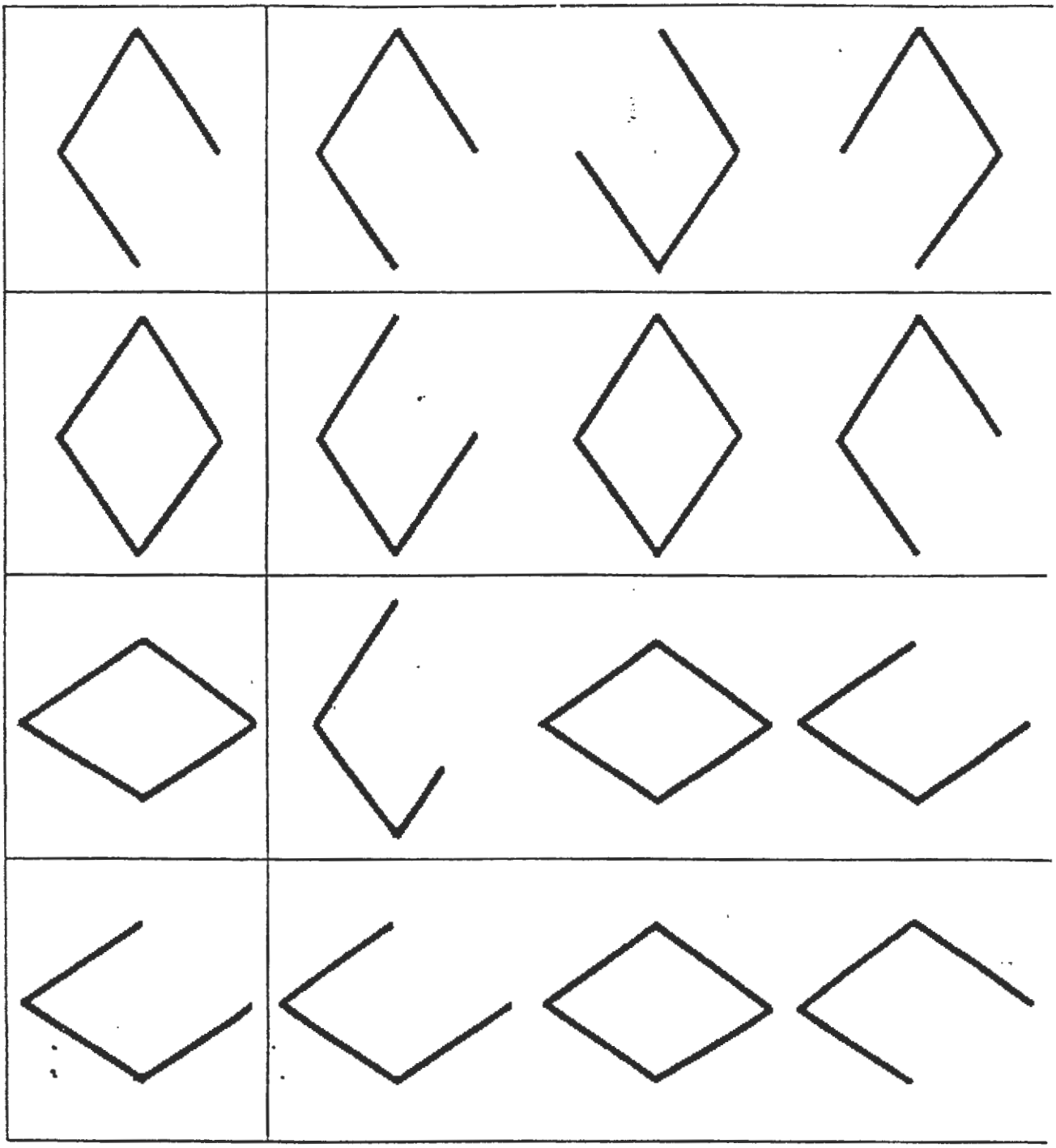
Some further suggestions:

*Make the child identify the matching figure from memory ie. cover up the original figure

*Ask the child how the pictures are different

*Ask the child to identify like features as well as dislike features.

EXAMPLE OF VISUAL DISCRIMINATION MATCHING WORKSHEET



VISUAL DISCRIMINATION SKILL BUILDING ACTIVITIES

ACTIVITY #8: SIMILARITIES and DIFFERENCES

PURPOSE: To improve a child's ability to identify similar and dissimilar forms. Discrimination can be based on size, shape, quantity, orientation, and even color.

MATERIALS: Any similarities and differences worksheet

PROCEDURE: These activities are designed specifically to build visual discrimination skills. Instructions are outlined on the sheet. Have the child try to read the instructions. If the child has difficulty, read the instructions to the child and you may even want to work through an example with the child. An example may be as follows: The child is shown a group of figures. All of the figures will be exactly the same except for one. The child is to identify the one figure which is different.

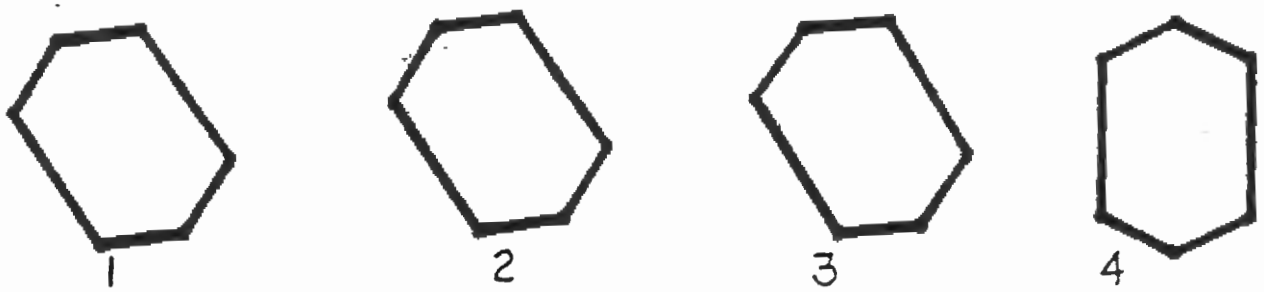
Easy to hard: -Have the child manual trace each figure to help with the identification process then discontinue this behavior as the child proceeds.
-Time the activity

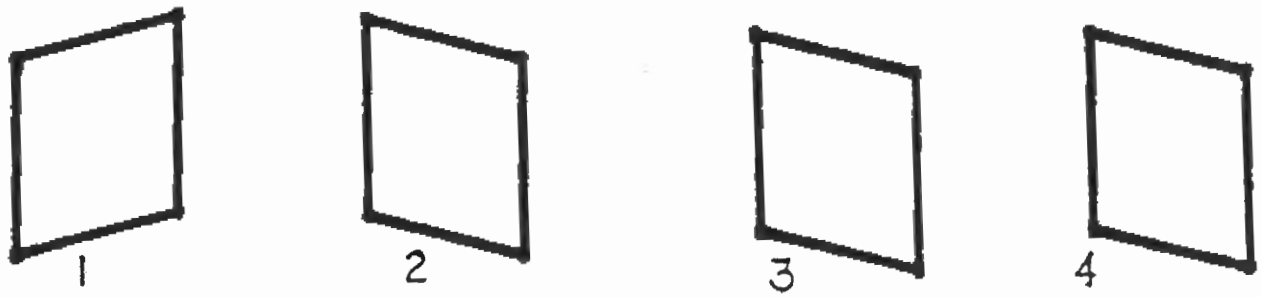
Some further suggestions:

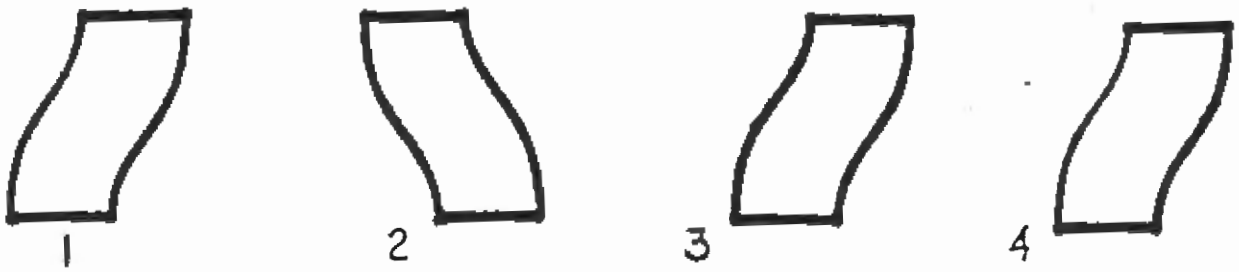
*Ask the child to identify the features that make the objects similar as well as different

*Have the child color similar objects a certain color and color the object that is different a different color.

EXAMPLE OF SIMILARITIES & DIFFERENCES WORKSHEET







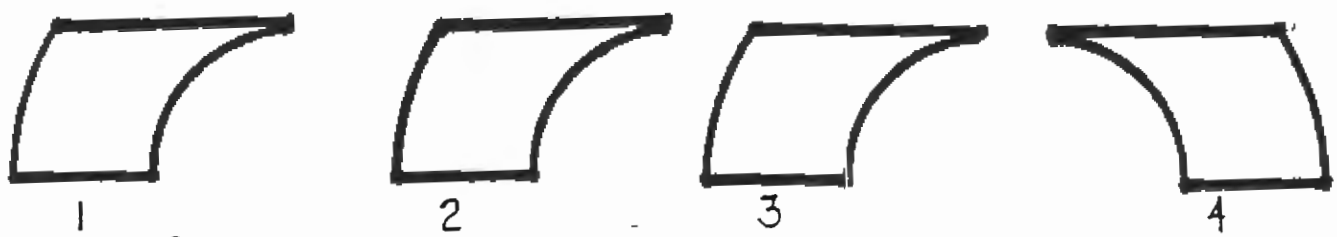


FIGURE-GROUND DISCRIMINATION

DEFINITION: Figure-ground discrimination is the ability to separate what you are looking at from its background. It is the ability to center attention and identify the main object despite the surrounding background details. It requires identifying and distinguishing central characteristics of an object without being distracted by the characteristics that are a part of the background. 47,48

Figure-ground discrimination is important for learning because in order for a child to derive any meaning from a situation, the child has to be able to focus their attention on the main object in the situation. For example, when looking at a picture, the meaning or story behind the picture is derived by recognizing the primary pictoral information. These are then integrated with the details that comprise the background. In this manner the whole picture is analyzed and interpreted.

Furthermore, the process of reading involves focusing attention on the words in sequence. The reader must attend to one word at a time (ie. the figure) while simultaneously being aware of the many words that form an entire page (ie. the background). This task becomes even more complicated for a child who is decoding words and has to analyze small parts of a word or syllables. Awareness of the background will help localize where the reader is and where the reader is to go next.

Figure-ground discrimination skills are also important with dictionary and encyclopedia work. Any task that requires an individual to search in order to find information, requires the ability to distinguish an object from its background.

Observations and behaviors associated with poor figure-ground discrimination:

-Difficulty determining what is significant from what is insignificant when doing visual tasks
-Tendency to either stop work before completion or to persevere on details when copying, drawing, or writing
-Tendency to have difficulty completing work
-Lack of awareness of what should be attended to
-Performs slowly
-Difficulty learning to read
-Difficulty with comprehension of reading

Classroom techniques to help a child with poor figure-ground discrimination:

-remove distracting or extraneous materials
-move the child to a desk in the front of the classroom
-allow the child to use a finger pointer, ruler or highliter to help direct attention
-allow the child to use a template or window to reduce distracting visual information
-point out relevant details and encourage feature analysis

GOAL OF ACTIVITIES:

To improve the child's ability to perceive the difference between the main figure/idea and the surrounding background.

ACTIVITIES:

1. Dot-to-dot pictures
2. Flashlight tag
3. Word finds
4. Alphabet tracking of words
5. Find the Hidden object
6. Search, Find, Look
7. Picture search
8. Find the shape or letter

FIGURE GROUND DISCRIMINATION SKILL BUILDER ACTIVITIES

ACTIVITY #1: DOT-TO-DOT PICTURES

PURPOSE: To improve a child's figure ground discrimination ability.

MATERIALS: pencil, dot to dot exercise sheets

PROCEDURE: Have the child complete the figure by connecting the dots. The dots should be connected in numerical order. First without any dots being connected, have the child try to guess what figure is. As the child proceeds to connect the dots, encourage the child to try to guess what it is.

Easy to Hard: -Simple pictures initially and work toward more detailed pictures ie. ones with more dots to connect
-Change the order in which that child connects the dots. For example, have the child connect the dots in reverse order from larger number to smaller numbers

Some further suggestions:

*Allow the child time to analyze the picture to try and guess what the completed picture will be

*Encourage the child to color the completed picture

EXAMPLE OF A DOT-TO-DOT PICTURE

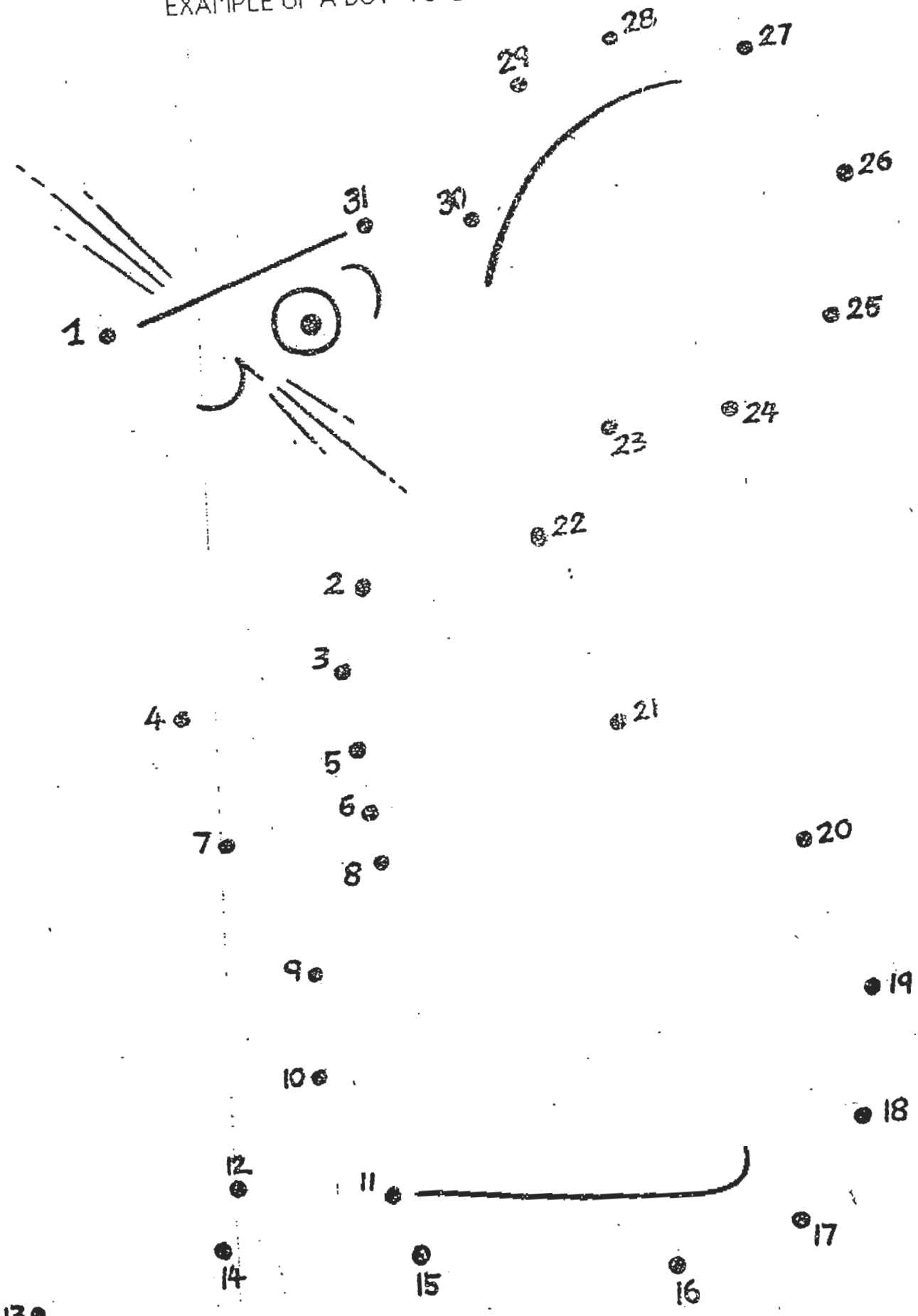


FIGURE GROUND DISCRIMINATION SKILL BUILDER ACTIVITIES

ACTIVITY #2: FLASHLIGHT TAG

PURPOSE: To improve a child's ability of figure ground discrimination

MATERIALS: 2 flashlights

PROCEDURE: There are 2 activities to perform with the child.
1. The first activity is to sit in a dimly lit room and pick out an object. Ask the child to shine the light of the flashlight on that object. The key is to have the child search the surrounding for the object then direct the flashlight onto that object of regard.

2. The second activity requires the use of 2 flashlights. Shine the flashlight on a particular spot. The child is to try to find that spot and shine his/her flashlight on the same spot. Move your light to a different location and the child finds your spot again.

Easy to hard: -Provide obvious clues at first as to the object then proceed to give more specific clues that would require the child to analyze particular object details
-This can be made harder by timing the activity ie. perhaps the child gets points if he/she can find the spot in a given time

Some further suggestions:
*Memory skills can also be worked on by shining the flashlight momentarily on a spot and then the child is to locate the spot from memory.

FIGURE GROUND DISCRIMINATION SKILL BUILDER ACTIVITIES

ACTIVITY #3: WORD FINDS

PURPOSE: To improve a child's figure ground discrimination ability with letters and words of the alphabet. To improve a child's organizational skills.

MATERIALS: Age appropriate word find worksheets

PROCEDURE: Many workbooks are available for children that contain word find exercises. Word finds are a great figure ground discrimination activity. The child must search all the letters to find the appropriate word.

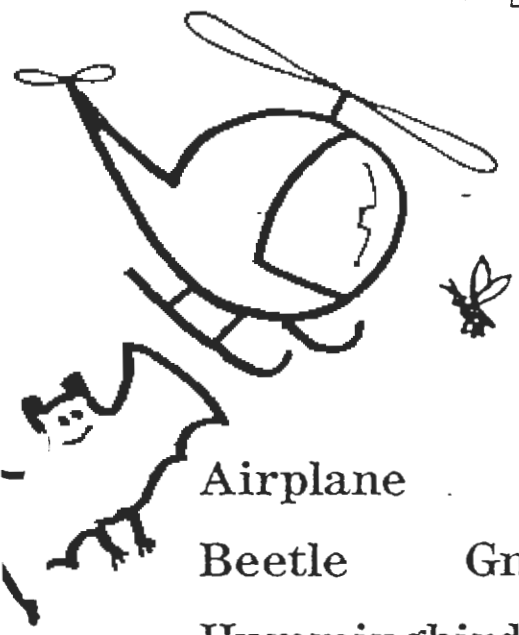
Easy to hard: -Start with word finds that have words that the child is familiar with and gradually increase the complexity of the words ie. words that the child is unfamiliar with
-Time the activity and see how many words the child can find in a certain time length

Some further suggestion:

*When working through the word find worksheets, try to encourage the child to proceed in an organized manner. For example, have the child choose a word to find. Then have the child start at the upper left hand corner of the page and work from a left to right, top to bottom manner (just like reading!) until the word is found.

EXAMPLE OF A WORD FIND

Things that Fly



Airplane Bee Butterfly Mosquito
Beetle Gnat Dragonfly Eagle Bat
Hummingbird Helicopter Rocket

B U D K F H U M M I N G B I R D J
E N X G N A T Q X U Q P L K A O M
E K D S J F I E F K F J Q P D G E
U Q J E V M C X N Z V Y E R R P M
D D F E H E L I C O P T E R A Q O
R R T A I F A I H O T L W H G H S
O A U G A J A I R P L A N E O E Q
C S K L K J O G I R K S J K N F U
K S D E I E F N K J S T K J F R I
E B U T T E R F L Y U O S R L I T
T C N R S W I I U P J V T G Y G O
O U W O E A K A E E F J B A T B N
I R F C U R Y F D K F K S O Y L N
Q A Q K F T E W R P A J T O P E A
S T I E D U B E E T L E A S T F R

FIGURE GROUND DISCRIMINATION SKILL BUILDER ACTIVITIES

ACTIVITY #4: ALPHABET TRACKING OF WORDS

PURPOSE: To improve a child's ability of figure ground discrimination

MATERIALS: pencil, Michigan tracking "word and phrase" sheets

PROCEDURE: The child scans the Michigan tracking sheet from left to right, top to bottom looking for the letters to spell the word or phrase. The letters are to be found in order. As the child scans across all the letters, until the appropriate letter of the word is found. Have the child draw an "X" over that letter and then continue scanning until all the letters of the word or phrase are found.

Easy to hard: -Use words that have words that the child is familiar with and gradually increase the complexity of the words ie. words that the child is unfamiliar with
-Time the activity

Some further suggestions:

*If the child seems to be frequently losing his/her place, allow the child to use a finger or perhaps ruler underneath the line. This will help the child to follow along.

WORD TRACKING DEMONSTRATION

SPELL: **W O R D**

K	G	C	S	O	A	I	P	Q	B	E	W
P	S	R	J	K	L	I	O	E	F	D	I
E	!	O	P	M	R	N	V	C	J	K	E
W	Q	R	T	Y	V	I	J	P	I	L	F
F	E	I	N	B	P	Q	W	O	C	D	B

FIGURE GROUND DISCRIMINATION SKILL BUILDER ACTIVITIES

ACTIVITY #5: FIND THE HIDDEN OBJECT

PURPOSE: To improve a child's ability of figure ground discrimination

MATERIALS: pencil, hidden object worksheets

PROCEDURE: Find the hidden object worksheets are great to help build figure ground discrimination skills. A child must search a picture in order to find specified hidden pictures. This can be challenging for the child.

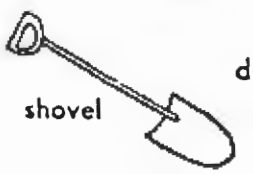
* The book WHERE'S WALDO also works on this same concept and is great for building figure ground discrimination skills.

Easy to hard: -At the start use worksheets in which the child is familiar with the pictures. This will make it easier for the child to recognize the pictures.
-Start with pictures that are not too complicated and do not have excessive background details

Some further suggestions:

*Have the child to color the hidden pictures. This will help the child understand especially if they seem to be having difficulties.

EXAMPLE OF HIDDEN OBJECT WORKSHEET


shovel


doll's head


car


ice-cream cone


carrot


mitten


key


kite


sailboat


toothbrush

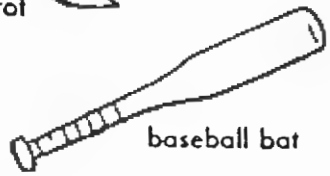

baseball bat

FIGURE GROUND DISCRIMINATION SKILL BUILDER ACTIVITIES

ACTIVITY #6: SEARCH, FIND, AND LOOK

PURPOSE: To improve a child's ability of figure ground discrimination

MATERIALS: room with detailed objects

PROCEDURE: In a room full of objects, call out the name of an object. The child should then search the room for the object and when it is found, look at it. Call off another object and again have the child search the surroundings for that particular object. The child can point at the object when it is found or the child can describe its location (ie. directionality skill building).

Easy to hard: -Start by naming the object then proceed to provide specific clues about the object. This would require that the child to analyze details of many objects in the room
-Start with objects that a child is familiar with.

Some further suggestions:

*This can be made harder by timing the activity ie. perhaps the child gets points if he/she can find the object in a given time.

FIGURE GROUND DISCRIMINATION SKILL BUILDER ACTIVITIES

ACTIVITY #7: PICTURE SEARCH

PURPOSE: To improve a child's ability of figure ground discrimination

MATERIALS: detailed pictures from magazine and books

PROCEDURE: Select a picture from a magazine or books that has lots of details. Pick objects from the picture and have the child try to find the object. Try to select detailed objects that require the child to search the picture to find the particular object.

Easy to hard: -Start by naming the object then proceed to provide specific clues about the object. This would require that the child to analyze details of many objects in the magazine picture
-Start with objects that a child is familiar with.

Some further suggestions:

*This can be made harder by timing the activity
ie. perhaps the child gets points if he/she can find the object in a given time.

FIGURE GROUND DISCRIMINATION SKILL BUILDER ACTIVITIES

ACTIVITY #8: FIND THE SHAPE or LETTER

PURPOSE: To improve a child's ability of figure ground discrimination

MATERIALS: Figure ground discrimination worksheets, pencil or colored markers

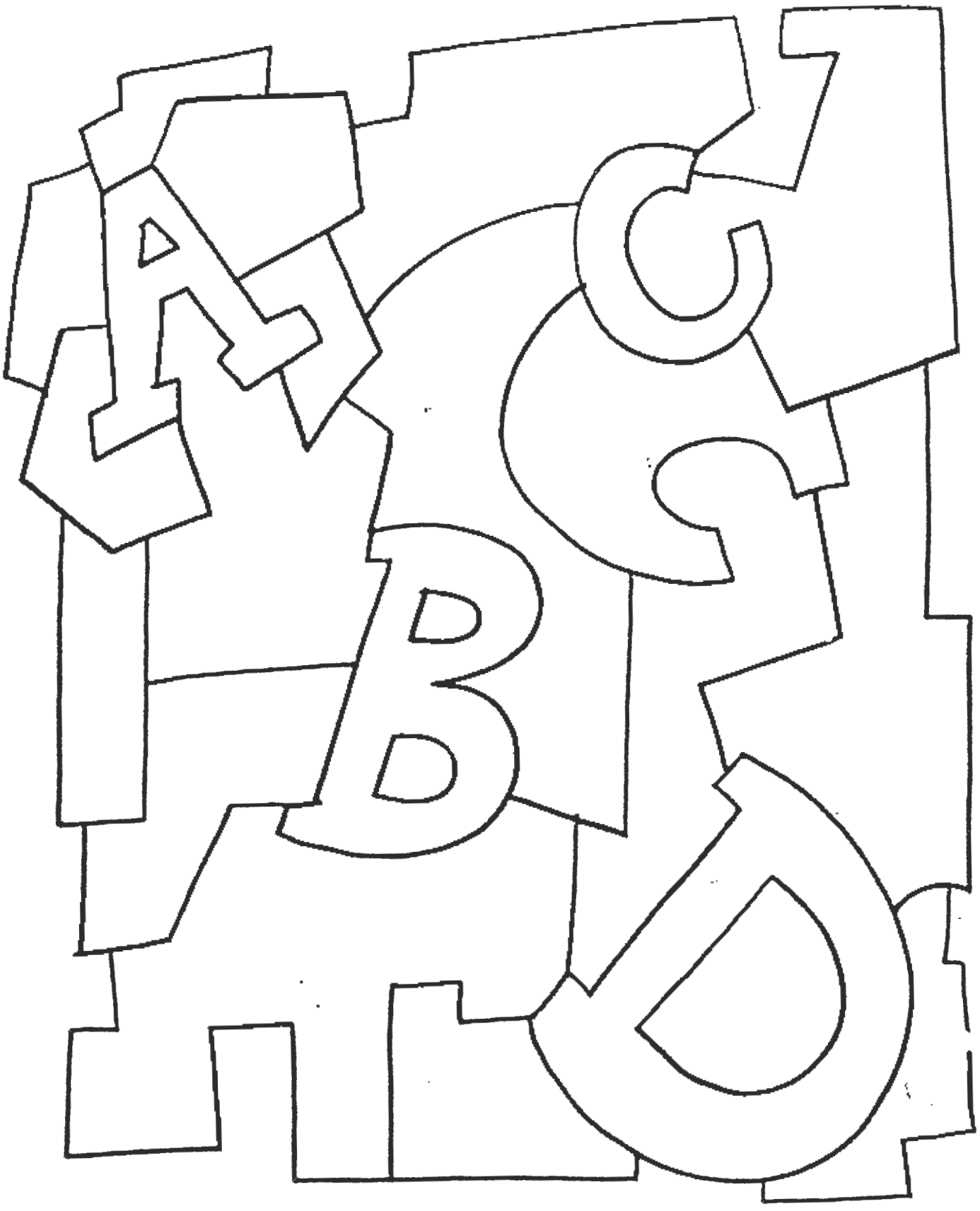
PROCEDURE: The worksheets specify a shape or letter that is to be found. The shape or letter may be blended into a larger figure. Then the child must search to find that shape or letter.

Easy to hard: -Start with worksheets that are not too complicated and do not have excessive background details ie. perhaps larger figures
-This can be made harder by timing the activity ie. perhaps the child gets points if he/she can find the object in a given time.

Some further suggestions:

*Once the shape or letter has been found, have the child trace over it or color it to make the figure clearly stand out.

Find: A B C D



VISUAL CLOSURE

DEFINITION: Visual closure is the ability to perceive the complete form of an object when only incomplete visual information is available. It is the ability to perceive a whole object from analysis of a few parts. It involves determining what are the important details or clues in order to obtain meaning of an entire figure. It is a skill in which past experience helps in the interpretation of an incomplete picture. 49,50

Visual closure is an important skill in the learning process. Often situations are encountered when complete information is not provided and logical thought processes are required to derive meaning. Visual closure skill reflects upon this ability to relate past experience, analyze relevant information provided and come up with a completed picture. Inability to obtain closure can result in decreased or incorrect comprehension.

Observations or behaviors associated with poor visual closure skills:

-May be able to perform several parts of a task but cannot put them together as a whole
-Work is incomplete
-Performs slowly
-May have poor comprehension when doing visual tasks such as reading
-Ignores details when doing visual tasks

Classroom techniques to help a child with poor visual closure skills:

-try to encourage analysis of details by pointing out features

-allow the child more time to work through assignments that require analysis of parts to whole

-encourage completeness of work perhaps with some form of positive reinforcement

GOAL OF ACTIVITIES:

To improve a child's ability to form complete and accurate perceptions from incomplete details.

ACTIVITIES:

1. Complete the shape
2. Complete the letter or number
3. What is missing
4. Incomplete sight word flashcards
5. Hangman
6. Visual closure matching
7. Puzzle building
8. Incomplete boy

VISUAL CLOSURE SKILL BUILDER ACTIVITIES

ACTIVITY #1: COMPLETE THE SHAPE

PURPOSE: To improve a child's ability to complete an incomplete drawing.

MATERIALS: Incomplete shape worksheets

PROCEDURE: Worksheets consist of common shapes that are incomplete or missing a small portion. Have the child examine the figure and try to guess what the completed shape is then have the child fill in the missing line or lines. If a child is just learning the various shapes, show the child the drawings of the completed shapes prior to this activity.

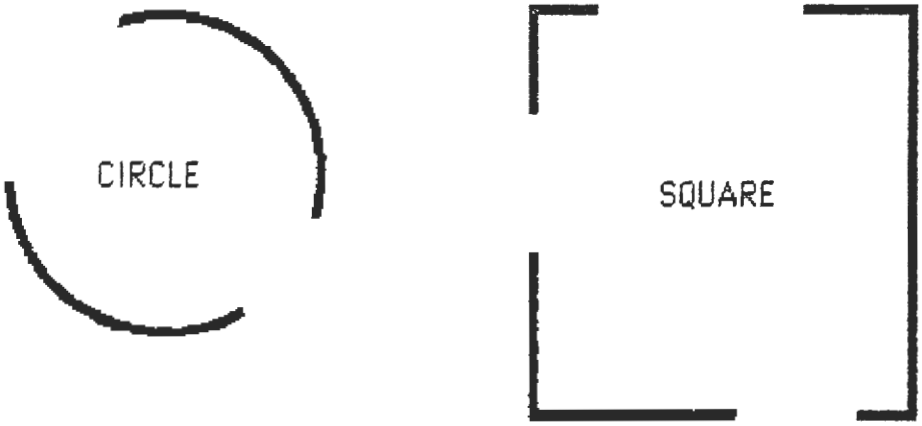
Easy to hard: -Start with easy, simple shapes and proceed to more complicated ones
-Start with incomplete shapes in which only a small portion is missing and proceed to drawings with greater portions missing.

Some further suggestions:

*Shape worksheets can be readily made by drawing incomplete shapes or even completed shapes and "white out" parts of the figure

*If a child thinks that he/she may know the shape but is unable to name it, have the child draw a similar shape or give provide examples of objects that are of that particular shape

SHAPE CLOSURE DEMONSTRATION



ACTIVITY #2: COMPLETE THE LETTER OR NUMBER

PURPOSE: To improve a child's ability to complete an incomplete alphabet letter or number.

MATERIALS: Incomplete alphabet or number worksheets

PROCEDURE: Worksheets consist of letters of the alphabet and numbers that are incomplete or missing a small portion. Have the child examine the figure and try to guess what the completed letter or number is then have the child fill in the missing line or lines. If a child is just learning the alphabet (upper & lower case) and numbers, then review with the child the completed drawings to demonstrate the alphabet and numbers.

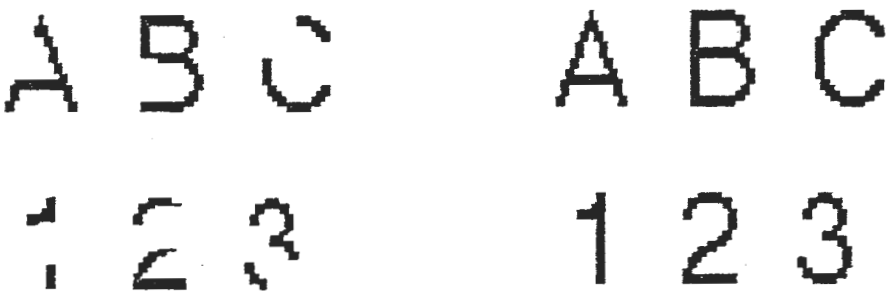
Easy to hard: -Start with larger letters or numbers and proceed to smaller ones
-Start with incomplete letters in which only a small portion is missing and proceed to drawings with greater portions missing.

Some further suggestions:

*Shape worksheets can be readily made by drawing incomplete letters or numbers. Liquid paper can be used to white out parts of the figures.

*Allow the child to complete the figure in its entire form.

LETTER CLOSURE DEMONSTRATION



ACTIVITY #3: "WHAT IS MISSING?"

PURPOSE: To improve a child's ability recognize what is missing from an incomplete figure or picture.

MATERIALS: "What is missing" worksheets

PROCEDURE The child is to examine a picture. There is something missing about the picture. It is usually something obvious. The child is to recognize what is missing then complete the picture by drawing in the missing part in the appropriate place.

Easy to hard: -Start with simple pictures that the child should be familiar with.
-Increase the amount of detail in the pictures ie. the complexity of the scene in the picture
-Increase the number of parts missing per picture

Some further suggestions:

*There is usually one obvious part missing in each picture; however, children often think of additional things which may be missing from the picture. Allow for this creativity!

*Allow the child to draw in any other objects that the child may think should appear in the scene

*Allow the child to color in the completed picture

*Missing picture worksheets can be made by using liquid paper to erase parts of the picture. Pictures contained in coloring books are o.k. for this but the "new" picture should be photocopied to so as to eliminate any markings.

EXAMPLE OF "WHAT IS MISSING" WORKSHEET

Something is **missing**!

Draw the **missing** part in the picture.

ACTIVITY #4: INCOMPLETE SIGHT WORD FLASHCARDS

PURPOSE: To improve a child's ability to recognize a common word when the word is not completely presented.

MATERIALS: Flashcards made with sight words or graded words. Flashcards can be constructed with index cards or rectangular-cut pieces of paper with the spelling word neatly printed on the card. For these flashcards, do not write the complete word. Write the word with one letter missing. Leave a blank space at the appropriate place where the letter should be.

SEE APPENDIX B for EKWALL SIGHT WORD LIST

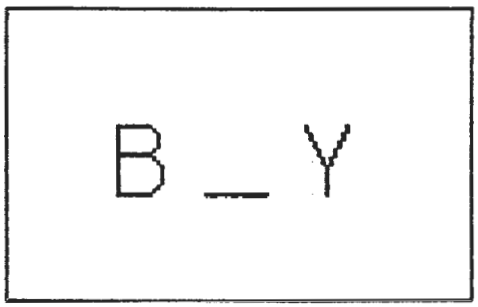
PROCEDURE: Show the flashcard word to the child for approximately 10 seconds then cover the word. Ask the child what he/she thinks the correct word is. Then ask what letter is missing from the word.

Easy to hard: -Start with simple words and proceed to use words that the child is not as familiar with or words that are greater in length
-Decrease the amount of time the child is allowed to look at the word
-Increase the number of blank letters on the flashcard

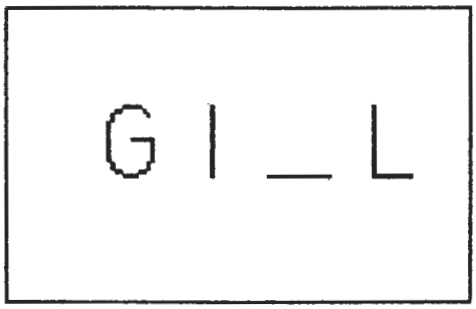
Some further suggestions:

*If the child has difficulty trying to figure out the word, allow the child to look at the flashcard again. Allow the child to guess at the word.

FLASHCARDS FOR VISUAL CLOSURE EXERCISE



BOY



GIRL

ACTIVITY #5: HANGMAN

PURPOSE: To improve a child's ability to recognize a common word when the word is not completely presented. Also works on a child's ability to complete a figure of a man/woman.

MATERIALS: paper, pencil

PROCEDURE: Select a word that the child is familiar with do not tell the child the word is. Tell the child how many letters are in the word and draw a spaces for each letter. The key to this game is to have the child try to guess what letters form the word. The child is instructed to select a letter that may be a part of the word. If the letter is part of the word then the letter is filled in the appropriate space; if the letter is not part of the word, then part of the hangman should be filled in by the child. The child continues to guess letters of the word. The key is to guess the completed word before a completed hangman is drawn.

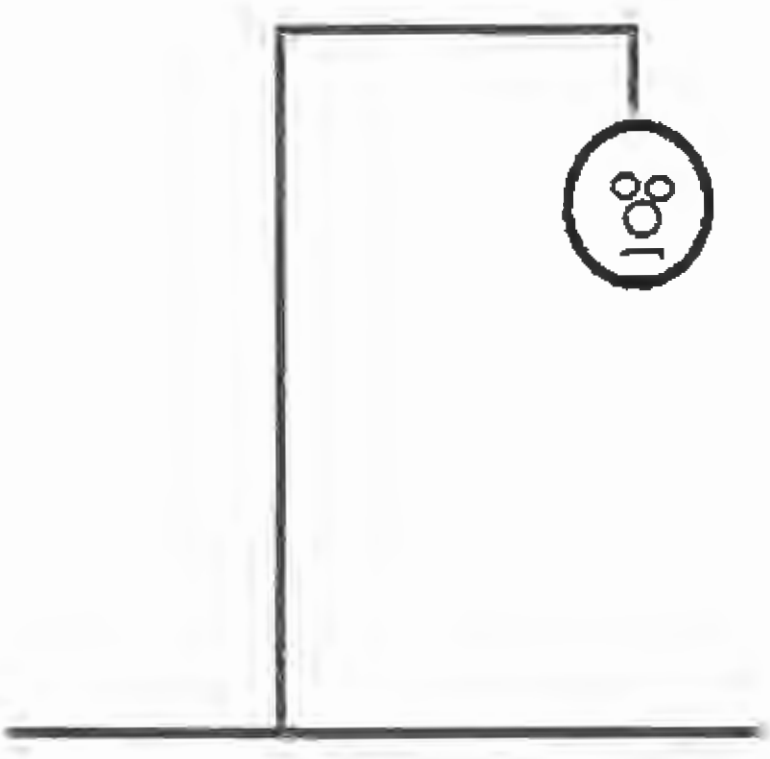
Easy to hard: -Start with simple words and increase the difficulty and/or length of the word

Some further suggestions:

*Can give the child one clue as to the category of the word
Example, the word is the name of a cartoon character
*If the child seems to be having difficulties with the word, give the child more clues.
*Encourage the child to construct the hangman figure with as much detail as the child can.
*Game can be reversed and the child can pick the hidden word.

HANGMAN DEMONSTRATION

HIDDEN WORD: GOLDFISH



A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

ACTIVITY #6: VISUAL CLOSURE MATCHING

PURPOSE: To improve a child's ability of recognize an incomplete figure and determine what the completed figure would look like.

MATERIALS: visual closure exercise sheets

PROCEDURE: Have the child complete the exercise sheets as follows: Look at the completed figure then from several incomplete drawings, select the one that can be made into the given completed drawing. Once the child has made the selection, have the child draw in the missing parts. The child can then compare this completed figure to the given completed figure. The key is to have these match.

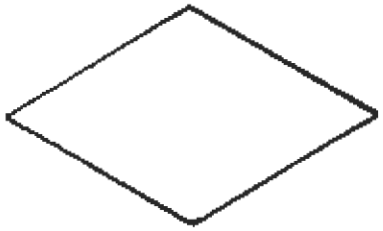
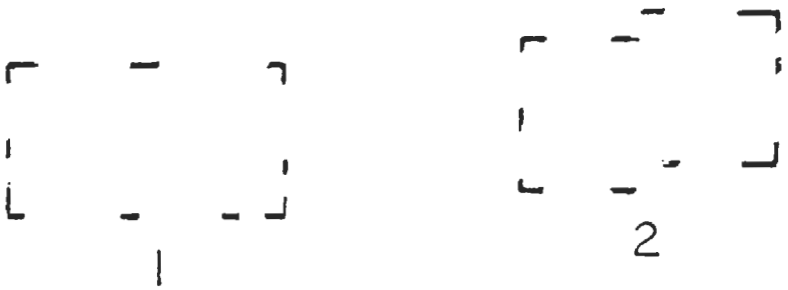
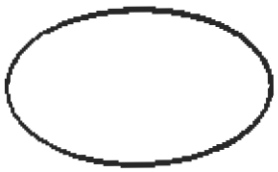
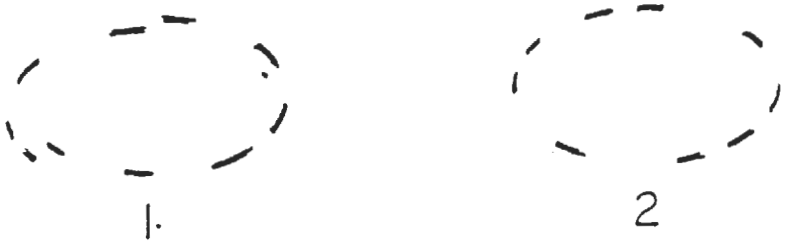
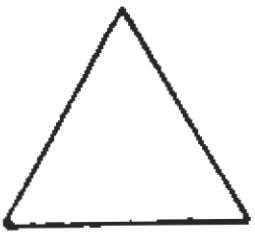
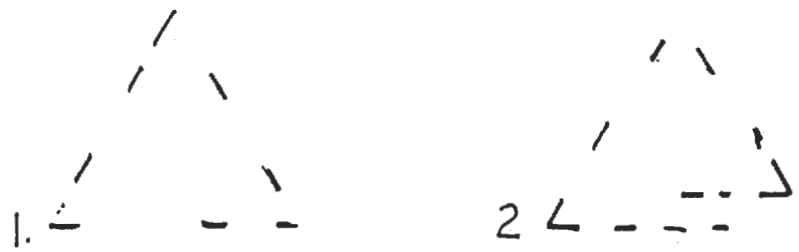
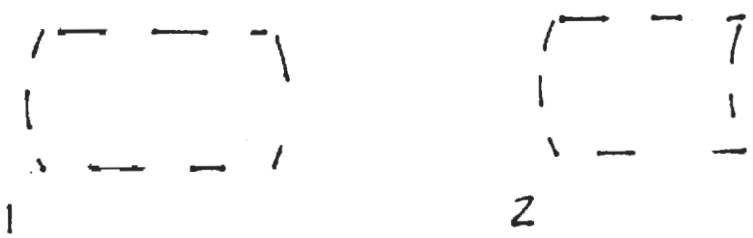
Easy to hard: -Start with simple figures and proceed to more complex, detailed figures
-Minimize the differences between the choices so that the correct match is not as obvious

Some further suggestions:

*Have the child draw in all the missing parts of each choice to demonstrate what the completed figures would look like.

*Time the activity and award points for correct answers.

EXAMPLE OF VISUAL CLOSURE MATCHING WORKSHEET

ACTIVITY #7: PUZZLE BUILDING

PURPOSE: To improve a child's ability of recognize an incomplete picture and fill in the pieces to complete the picture.

MATERIALS: age appropriate puzzles

PROCEDURE: Puzzles can be a great way to build visual closure skills. Have the child put the pieces of the puzzle together to form the picture. The child should analyze each piece and try to figure out where it belongs in the whole picture.

Easy to hard: -Start with simple puzzles and increase the difficulty by increasing the amount of details in the picture and by increasing the number of pieces in the puzzle
-Smaller puzzle pieces are usually more difficult to analyze

Some further suggestions:

*Encourage the child to guess what each piece could be a part of in the whole puzzle.

*Allow the child to look at the design of the completed figure. Visual memory skills can be worked on by minimizing the length of time a child is permitted to view the puzzle design.

ACTIVITY #8: THE INCOMPLETE BOY

PURPOSE: To improve a child's ability of recognize an incomplete figure and to complete the missing parts.

MATERIALS: pencil, incomplete boy exercise sheets

PROCEDURE: Have the child examine the drawings. One or more parts of the drawing are missing. Ask the child to identify what is missing then have the child draw the appropriate part or parts in order to complete the drawing of the boy. If the child seems to be struggling to figure out what is missing, show the child a completed picture of the boy.

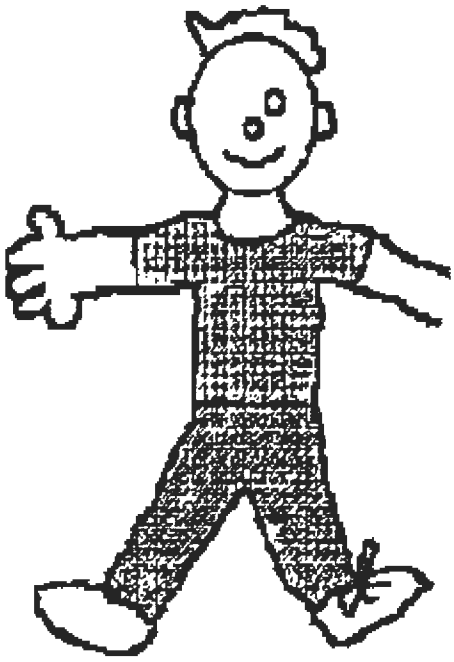
Easy to hard: -Increase the number of parts missing
-Make the missing parts less obvious
ie. a shoe lace vs an arm

Some further suggestions:

*Minimize the amount of time a child is allowed to see the incomplete figure. This will help build visual memory skills.

*To build laterality skills, ask the child questions about whether the missing part belongs to the left or right side.

INCOMPLETE BOY DEMONSTRATION



VISUAL MEMORY

DEFINITION: Visual memory is the ability to retain visual information for short term or long term recall. It refers to the capacity to store and later retrieve visual input. Information must therefore be accurately stored in order to be accurately recalled . Visual memory can involve recalling objects in a particular order or sequence and is referred to as visual sequential memory. 51

There are 2 visual memory processes: short-term and long-term. **Short-term memory** is associated with the retrieval of recently perceived experiences. It is of limited capacity and stores information for only a short time without rehearsal. An example of short term memory is the ability to copy information down from the blackboard. The greater the capacity of an individual's short term memory, the more words, letters, or numbers that can be recalled at once. **Long-term memory**, on the other hand, is associated with the retrieval of information at time intervals much later than original exposure. It is essentially of unlimited capacity. For example, sight words, spelling words and multiplication tables are a part of the long-term memory.

A child with poor visual memory skills often has a poor sight word vocabulary as well as difficulty with math and spelling. Children with poor visual memory may also have to reread material constantly in order to comprehend paragraphs.

The importance of sight words: A sight word is any word that a reader has experienced many times in the past and is able to recognize instantly without using word attack skills. 52 Because of their repetitive use in language, sight words are important in the development of reading fluency and comprehension. If a child phonetically sounds out common words every time the word is encountered, that child is likely to have reduced speed and comprehension of reading. Reading becomes more difficult.

Observations and behaviors associated with poor visual memory:

-Poor spelling
-Inability to recall large groups of information
-Difficulty learning mathematical concepts such as multiplication tables
-Difficulty learning sight word vocabulary
-Phonetically sounds out sight words
-Slow and/or choppy oral reading
-Difficulty recalling sequences
-Difficulty with visual tasks requiring many steps

Classroom techniques to help a child with poor visual memory:

-encourage the child to repeat verbally, information such as words, phrases, sequences as this might help the child to remember
-reinforce visual information with other sensory aids
-allow the use of memory aids such as mnemonics
-simplify the visual task by decreasing the number of steps

Goal of Activities:

To increase the amount of information stored and improve the ease and accuracy of recall.

ACTIVITIES:

1. Flashcards of sight words
2. Flashcards of spelling words
3. Flashcards of pictures
4. Card deck memory game
5. Disappearing objects
6. What is different?
7. Picture memory
8. Flashcards of mathematical equations

VISUAL MEMORY SKILL BUILDER ACTIVITIES

ACTIVITY #1: FLASHCARDS OF SIGHT WORDS

PURPOSE: To improve a child's ability to recognize and memorize sight words.

MATERIALS: Flashcards made with sight words or graded words. Flashcards can be constructed with index cards or rectangular-cut pieces of paper with the sight word neatly printed on the card.

SEE APPENDIX B for EKWALL SIGHT WORD LIST

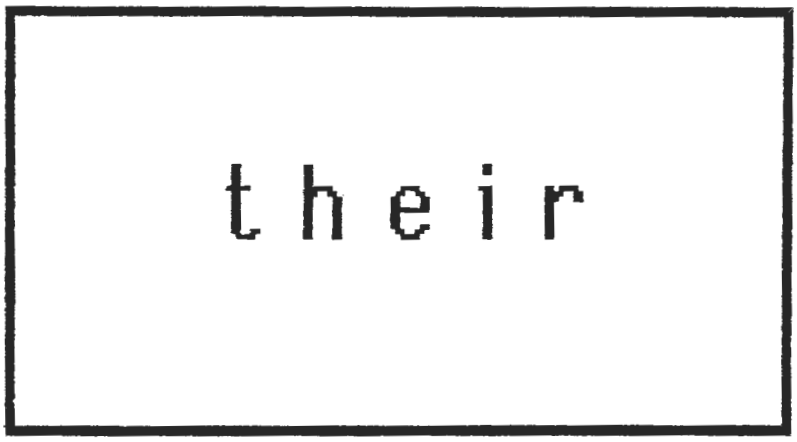
PROCEDURE: Show the flashcard word to the child for approximately 3 seconds then cover the word. Wait about 30 seconds then ask the child to tell you what the word was then write down the word that was just flashed. Guessing is alright.

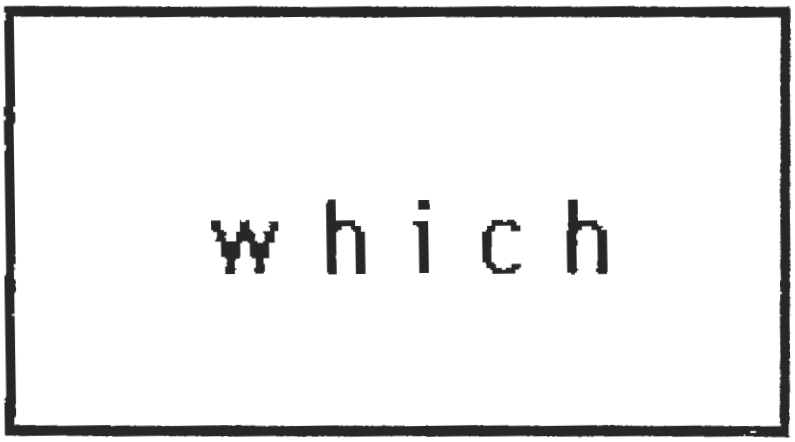
Easy to hard: -Start with simple words and proceed to use words that the child is not as familiar with or words that are greater in length
-Decrease the amount of time the child is allowed to look at the word and increase the amount of time before the child is to recall the word

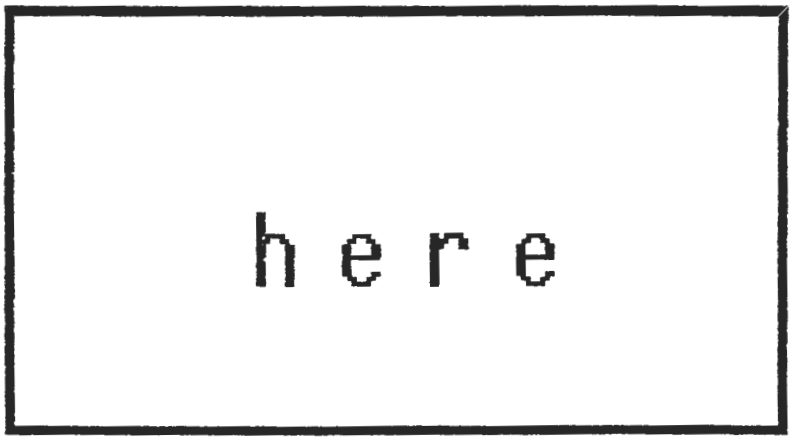
Some further suggestions:

*Start by showing the child one word at a time and gradually increase the number of words shown to the child before the child is to recall the words

SIGHT WORD FLASHCARDS







ACTIVITY #2: FLASHCARDS OF SPELLING WORDS

PURPOSE: To improve a child's ability to spell and memorize spelling words.

MATERIALS: Flashcards made with the child's spelling words.

PROCEDURE: Show the flashcard word to the child for approximately 3 seconds then cover the word. Wait approximately 30 seconds then ask the child to say then write down the word that was just flashed. Guessing is acceptable. The child should then compare his/her answer to the correct spelling and check for any errors.

Easy to hard: -Start by showing the child one word at a time and gradually increase the number of words shown to the child before the child is to recall the words
-Decrease the amount of time the child is allowed to look at the word and increase the amount of time before the child is to recall the word

Some further suggestions:

*The flashcards of spelling words that were troublesome for the child should be flashed repeatedly until a correct, effortless response is provided. On words that a child is having difficulty memorizing, it may be beneficial to have the child trace over the correct spelling several times to get a feel of the motor pattern of the correct word.

SPELLING WORD FLASHCARDS

beautiful

tomorrow

receive

ACTIVITY #3: FLASHCARDS OF PICTURES

PURPOSE: To improve and increase a child's ability to memorize pictures.

MATERIALS: Flashcards of pictures can be constructed with index cards or rectangular-cut pieces of paper with one or more pictures evenly spaced on the card.

PROCEDURE: Show the flashcard to the child for approximately 3 seconds. Wait about 30 seconds then have the child recall the pictures as they appeared on the flashcard. Start at a level (# of pictures on the flashcard) that the child can do without making any mistakes and work slowly from there. Encourage accurate responses in the correct order.

Easy to hard: -Start by showing the child one picture at a time and gradually increase the number of pictures shown to the child before the child is to recall the pictures
-Decrease the amount of time the child is allowed to look at the picture and increase the amount of time before the child is to recall the it.

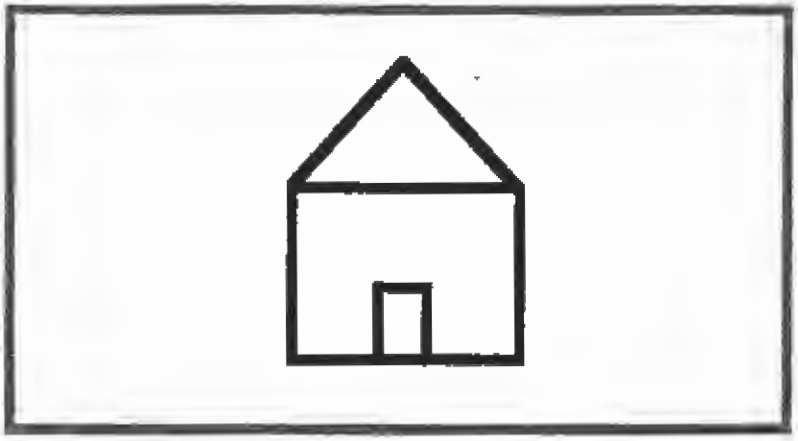
Some further suggestions:

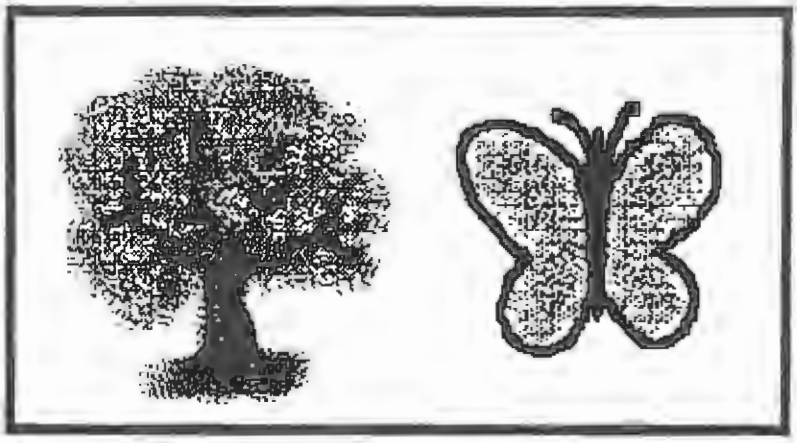
*Use hand drawn pictures on the flashcards or pictures can be cut out of magazines and pasted on to the flashcard.

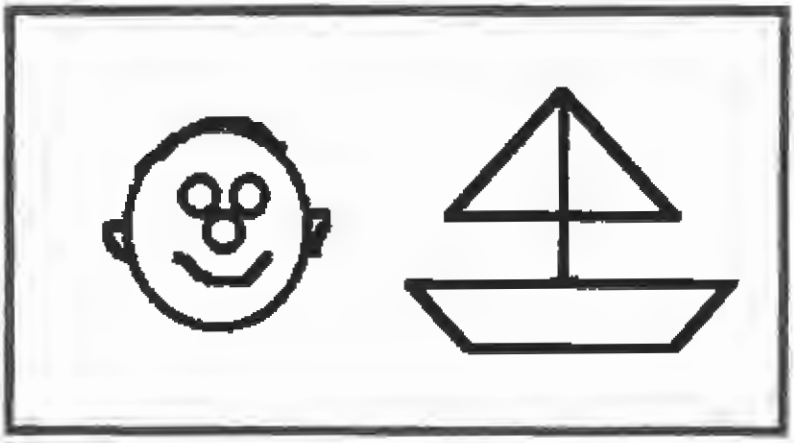
*Picture flashcards may also be available to purchase.

*Use pictures that the child is somewhat familiar with.

PICTURES FLASHCARDS







ACTIVITY #4: CARD DECK MEMORY GAME

PURPOSE: To improve a child's visual memory capacity with a game based on memorizing pairs of numbers.

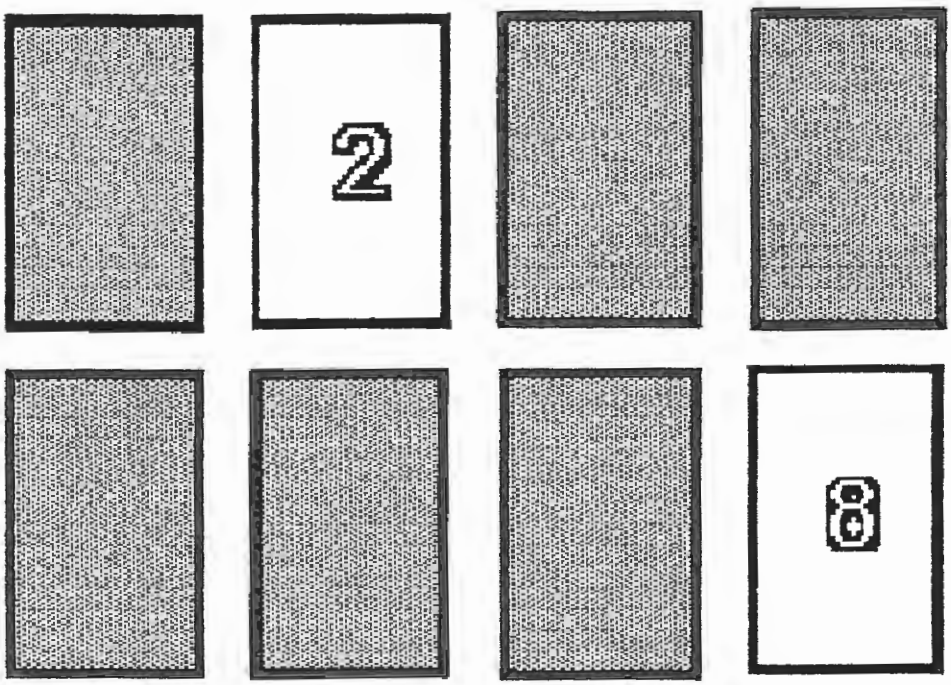
MATERIALS: Deck of cards. Select 5-13 pairs of numbers depending on the child's age and visual memory ability. For example: To make 5 pairs (10 cards in total) use 2 of the following cards- ace, 2, 3, 4, 5 independent of the card suit.

PROCEDURE: Shuffle the selected cards and then lay them face down in front of the child. Have the child select 2 cards and turn them over. The key is to find a matched pair of cards. If the cards match, the child gets to go again and select 2 more cards to turn over. If the cards do not match, then they are again turned face down and both players must remember what number and where the cards are. It is the other player's turn to select 2 cards and try to find a matched pair. The player can select a card that has never been uncovered or the player can use a previously exposed card to form a pair. The game continues until all the pairs are found. The winner is the person with the most pairs of cards found.

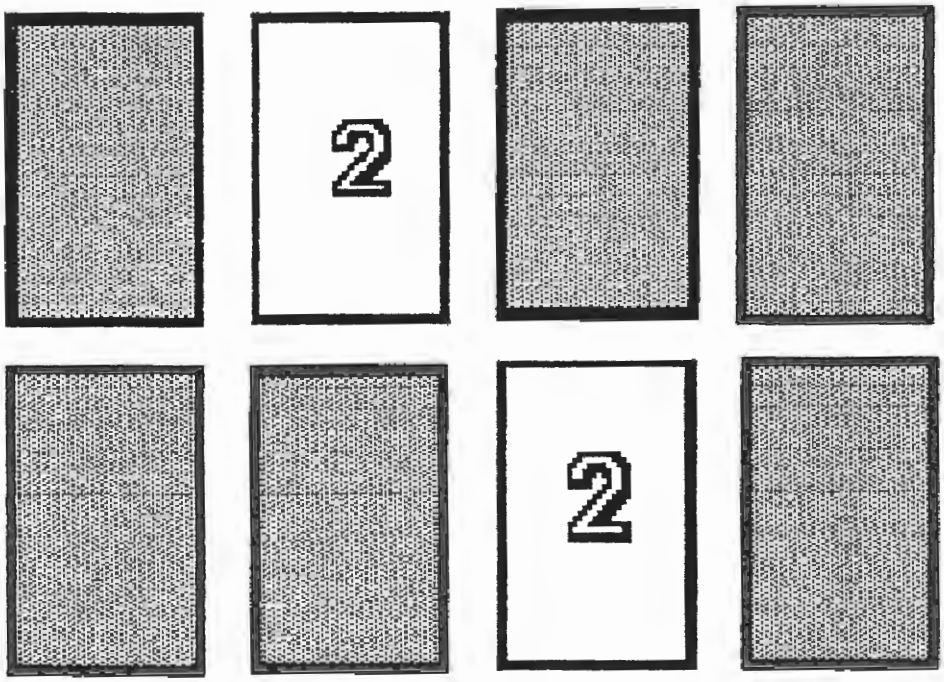
Easy to hard: -Increase the number of pairs used to play the game ie. more to memorize
-Distractions such as talking to the child while playing can make the task of remembering harder.

CARD MEMORY DEMONSTRATION

Player 1 turns over 2 cards. No pair is found.



Player 2 takes his/her turn and does find a pair.



ACTIVITY #5: DISAPPEARING OBJECTS

PURPOSE: To improve a child's visual memory skill and ability to memorize details.

MATERIALS: Familiar objects

PROCEDURE: Start out with 4 objects and place them in front of the child. Then have the child close their eyes or turn around and while the child is not looking, remove one of the objects. Ask the child, what is different now? May have to modify the number of objects used based on the ability of the child.

Easy to hard: -Increase the number of objects placed in front of the child
-Make the objects similar so that the child must identify and remember specific object details
-Decrease the amount of time that the child is allotted to view the original objects

Some suggestions of objects to use:

Crayons or color markers
Toys and dolls
Fruit or vegetables
Kitchen utensils ie. spoon, knife, fork, glass, cup
Books or magazines
Bathroom supplies ie. toothpaste, toothbrush, hairbrush, dental floss, shampoo

VISUAL MEMORY SKILL BUILDER ACTIVITIES

ACTIVITY #6: WHAT IS DIFFERENT?

PURPOSE: To improve a child's visual memory skill and ability to memorize details.

MATERIALS: Coloring book

PROCEDURE: Select an uncolored picture. Then have the child close their eyes or turn around and while the child is not looking, start to color part of the picture. Give the child about 10 seconds to view the picture then ask the child, what is different now? At first this may be easy and obvious to the child but as more and more areas are colored, the task becomes more difficult.

Easy to hard: -Start with simple pictures and proceed to more complicated, detailed pictures
-Decrease the amount of time that the child is allowed to look at the picture

Some further suggestions:

*Another variation would be to draw your own picture. Draw a small portion and slowly add details. After each step, ask the child, what is different now?

VISUAL MEMORY
SKILL BUILDER ACTIVITIES

ACTIVITY #7: PICTURE MEMORY

PURPOSE: To improve a child's visual memory skill.

MATERIALS: Pictures from a book or magazine

PROCEDURE: Select a picture from a book or magazine. Show the picture to the child for approximately 10 seconds then remove the picture from the child's view. Ask the child to describe the picture with as much detail as possible.

Easy to hard: -Increase the amount of detail in the picture
-Decrease the amount of time that the child is given to view the picture
-Increase the amount of time before the child is asked to recall the picture

Some further suggestions:

* Vary the amount of time before recall. For example, ask the child to recall a picture immediately after viewing or ask the child to recall a picture after a greater period after viewing (ie. 2 minutes).

*The task can be made harder with distractions. For example, after the child has viewed the picture, ask the child a question about something unrelated to the picture. Get the child's mind off of the picture with the distraction then ask the child to recall the picture and see how his/her memory ability has been affected by the distraction.

ACTIVITY #8: FLASHCARDS OF MATHEMATICAL EQUATIONS

PURPOSE: To improve a child's ability to memorize numbers and equations and to perform the correct calculations.

MATERIALS: Flashcards of mathematical equations can be constructed with index cards or rectangular-cut pieces of paper with number equations evenly spaced on the card.

PROCEDURE: Show the flashcard to the child for approximately 10 seconds. Then have the child correctly answer the equation Start with simple equations that the child can do without making any mistakes and increase the difficulty of the equation appropriately for the level of the child. Encourage accurate responses in the correct order. If an incorrect response is given, ask the child to recall from memory the numerical equation as it appeared on the flashcard.

Easy to hard: -Increase the difficulty of the equation
-Decrease the amount of time that the equation is shown
-Increase the amount of time before the child is asked to recall the answer.

Some further suggestions:

*The flashcards of equations that were troublesome for the child should be flashed repeatedly until a correct response is given.

EQUATION FLASHCARDS

3 + 8 =

12 - 5 =

9 x 8 =

VISUAL SEQUENCING

DEFINITION: Visual sequencing is the ability to do a task in a correct step by step order. It refers to the ability to maintain an order or sequence of visual information. Visual sequencing is necessary to remember things such as the alphabet, numbers, days of the week, and even telephone numbers.

a b c ... 1 2 3 ...

Reading involves remembering specific patterns of letters that form words. A child with poor visual sequencing ability may not be able to remember letter patterns and may often misread words. This may be more evident with longer words ie. the more letters in a word, the greater the pattern or sequence to remember. Poor sequencing ability often accounts for reading errors where a word such as "three" is confused with the word "there". 53,54

Observations and behaviors associated with poor visual sequencing:

-Difficulty organizing self and materials
-Ignores left to right direction and top to bottom organization
-Difficulty grouping visual information
-Poor spelling
-Difficulty learning sight word vocabulary
-Difficulty recalling sequences such as the alphabet, counting numbers, remember the days of the week or months, telling the time
-Difficulty with visual tasks requiring multiple steps

Classroom techniques to help a child with poor visual sequencing skills:

-encourage repetition of words, phrases, sequences etc.. to help memory process
-reinforce visual information with other sensory aids
-allow the use of memory aids such as mnemonics
-simplify the visual task by decreasing the number of steps

Goal of Activities:

To improve the ability to remember sequencing or specific order of visual information.

ACTIVITIES:

1. Flashcards with number sequences
2. Bead sequencing
3. Building block sequences
4. Object sequencing
5. Ordering of objects in the room
6. Making a telephone book
7. Grocery sequencing
8. Newspaper or comic sequence

VISUAL SEQUENCING SKILL BUILDER ACTIVITIES

ACTIVITY #1: FLASHCARDS OF NUMBER SEQUENCES

PURPOSE: To improve a child's ability to memorize a numerical sequence.

MATERIALS: Flashcards with number sequences. Flashcards can be constructed with index cards or rectangular-cut pieces of paper with the number sequence evenly spaced on the card. Start with 2, 3, 4, 5, and 6 number sequences.

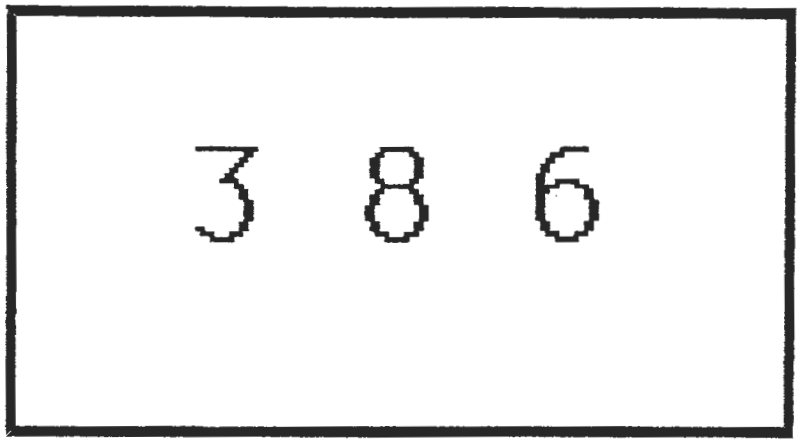
PROCEDURE: Show the flashcard to the child for approximately 3 seconds. Wait approximately 10 seconds then have the child recall the numbers as they appeared on the flashcard. Start at a level (# of numbers in the sequence) that the child can do without making any mistakes and work slowly increasing the amount of numbers in the sequence. Encourage accurate order of responses. Do not progress to a greater level until a child is repeatedly capable of recalling sequences at a given level.

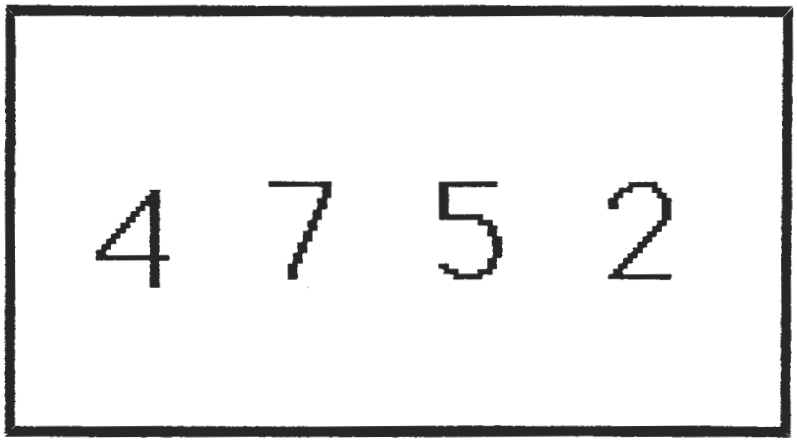
Easy to hard: -Increase the number of numbers in sequence. ie. 6 numbers in sequence are harder than 4
-Decrease the amount of time that the card is shown
-Increase the amount of time before the child is asked to recall the sequence

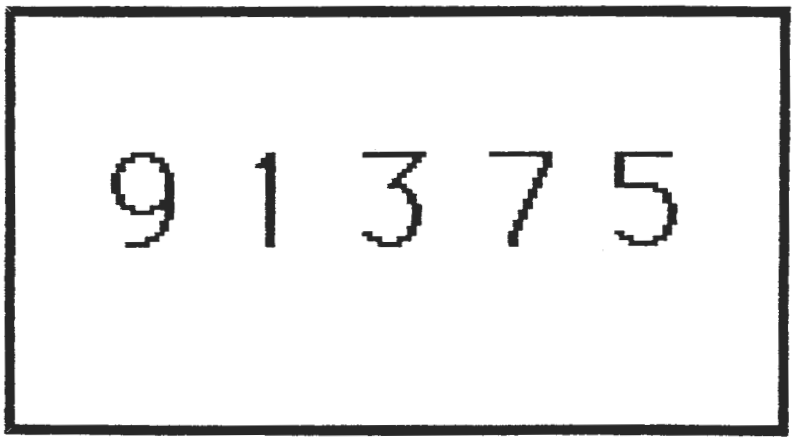
Some further suggestions:

*The task can be made hard with distractions. For example, after the child has viewed a sequence flashcard, ask the child a question about something unrelated. Then ask the child to recall the correct sequence.

NUMBERED FLASHCARD DEMONSTRATION







ACTIVITY #2: BEAD SEQUENCING

PURPOSE: To improve a child's ability to memorize a color sequence of beads.

MATERIALS: colored beads, string

PROCEDURE: Design a sequence of colored beads on a string using 4 to 10 beads depending on the child's ability. Show the bead sequence to the child. Tell the child that this is a game where you have to try to match my beads by building the same thing. Allow the child time to carefully look at the sequence. Ask the child if they are ready to build the bead sequence from memory. Then allow the child to try to replicate the bead sequence from memory; therefore, your bead pattern must be hidden from sight. When the child is finished, compare the child's beads to the original.

Easy to hard: -Increase the number of beads used.
-Decrease the amount of time the child is given to look at the bead sequence
-Time how long it takes the child to string beads

Some further suggestions:

*Allow the child to memorize the order but then request that the child replicate the order backwards.
*Instead of replicating the entire sequence of beads, can ask the child questions such as what color is the fourth bead in the sequence? Where in the sequence is the red bead? How many beads are blue?

ACTIVITY #3: BLOCK BUILDING SEQUENCES

PURPOSE: To improve a child's ability to follow instructions in order.

MATERIALS: colored building blocks

PROCEDURE: In this activity present the child with a series of written instructions. The instructions tell the child what to build with the building blocks. The child is to read the instructions carefully then attempt to follow them. Allow the child sufficient time to read through all the steps. Start with simple instructions and work from there.

Easy to hard: -Start with simple designs and increase the number and colors of blocks used.
-Time the activity

Some suggestions on instructions:

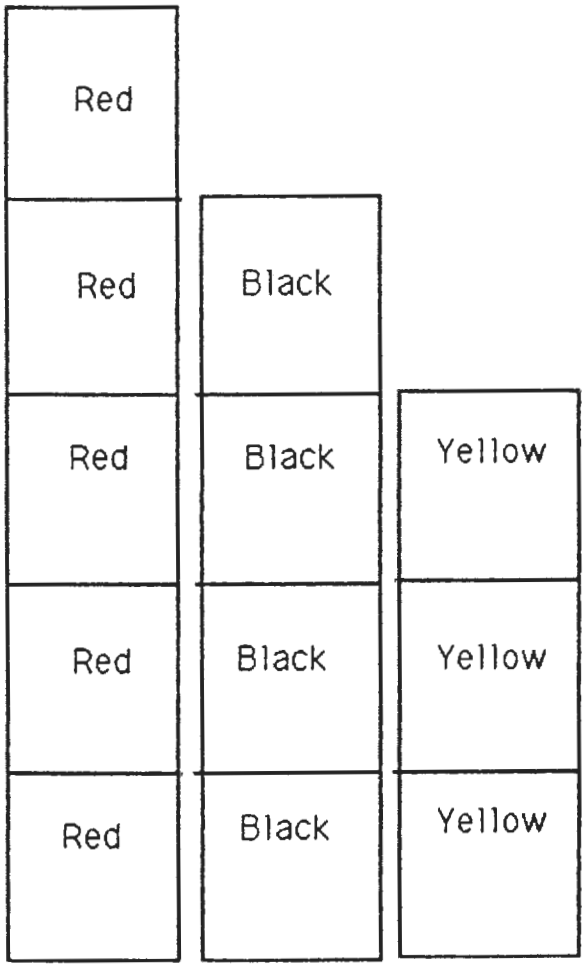
*May have to demonstrate to child to ensure the child understands what is expected. Try to use simple directions and if a child does not understand a particular word, explain to the child what the word means. For example, the word "column" may be difficult for the child to read and comprehend.

*Can either allow the child to look at the instructions while building or can work on developing visual memory skills by making the child build all the steps from memory.

*LEGO building blocks would also work well for this activity

BUILDING BLOCK DEMONSTRATION

Instructions:
1. Take 5 red blocks and stack them on top of each other.
2. Take 4 black blocks and stack them on top of each other.
3. Place the black blocks behind the red blocks.
4. Take 3 yellow blocks and stack them on top of each other.
5. Place the yellow blocks behind the black blocks.



VISUAL SEQUENCING SKILL BUILDER ACTIVITIES

ACTIVITY #4: OBJECT SEQUENCING

PURPOSE: To improve a child's ability to memorize a sequence of objects.

MATERIALS: several objects (3-10)

PROCEDURE: Take several objects and arrange them in a sequence. Tell the child that you are going to play a game. Have the child look at the order of the objects then close his/her eyes. Change the order of the sequence in some manner without the child seeing what you are doing. Then ask the child to now look at the objects and try to figure out what is different? Change the order of the objects by rearranging 1 or more of the objects, taking away or adding different objects, or perhaps changing nothing about the sequence.

Easy to hard: -Increase the number of objects used
-Increase the number of changes made to a particular sequence or make the changes more subtle

Some suggestions of objects to use:

toys
fruit & vegetables
colored pencils & markers
books & magazines
kitchen utensils
shoes & clothing ie. socks, gloves, hats

ACTIVITY #5: ORDERING OF OBJECTS IN THE ROOM

PURPOSE: To improve a child's ability to memorize a sequence of visible objects

MATERIALS: room with several objects

PROCEDURE: Start this game by saying, "In this room, I see a _____". You must fill in the blank with an object present in the room. Then the next person takes his/her turn to fill in the blank with a new object but they must also say all objects that were mentioned previously. Furthermore, they must say all the objects in the exact order that they were presented.
For example, "In this room, I see a lamp, telephone, tissue box, teddy bear, ...". In this game the child is able to see the actual objects that form the visual sequences.

This is similar to a game in which categories are named such as foods, places, people. For example, Names of Fruits-every time a player takes a turn, he/she must name in order all the previous fruits listed and a new fruit.

Easy to hard: -Increasing the number of objects in the sequence makes the task harder
-Distractions can make remembering sequences harder

ACTIVITY #6: MAKING A TELEPHONE BOOK

PURPOSE: To improve a child's ability to place information in proper sequences

MATERIALS: paper, pencil, telephone numbers

PROCEDURE: This activity allows a child to make their own telephone book. A telephone book involves putting information in alphabetical order and in the correct numerical sequence ie. accurate recording of telephone numbers. Start by having the child write down the names of all the people that the child would like to include in his/her book. Perhaps the child may choose to use first names only. Help the child to construct the book with a separate piece of paper for each letter of the alphabet. The pages can be stapled to form a book. Then allow the child to write down the name and telephone numbers in proper order.

Easy to hard: -The more names and numbers to be included in the book, the more information that the child must organize and place in proper sequence
-Can make the task harder by having the child memorize the names in order and construct the telephone book from memory.

Some further suggestions:

*The child can use addresses as well.

* Have the child perhaps locate the telephone numbers of the people in the telephone book or perhaps the child knows the number from memory.

ACTIVITY #7: GROCERY SEQUENCING

PURPOSE: To improve a child's ability to arrange groceries in proper sequence.

MATERIALS: groceries such as cereals, cans, spices

PROCEDURE: Allow the child to place grocery items in alphabetical order. For example, have the child arrange all the canned goods in alphabetical order. The child can also arrange items based on category as well. For example, arrange all the soup cans in alphabetical order then arrange all the cans of vegetables in order too.

Easy to hard: -Increase the number of objects that are to be placed in sequence
-Increase the number of categories of objects such as soups, vegetables, cereals and spices

Some further suggestions:

*The child can also alphabetize books, magazines, compact discs and cassette tapes.

*Can modify the activity by taking objects and rearranging them in an incorrect order. Then have the child place them back in the correct sequence. This can be timed as well.

ACTIVITY #8: NEWSPAPER or COMIC SEQUENCE

PURPOSE: To improve a child's ability to place information in a correct sequence of events.

MATERIALS: newspaper articles, comic strips, scissors

PROCEDURE: Have the child read an article from the newspaper. With the newspaper article, have the child cut out that entire article from the newspaper then proceed to cut out each separate paragraph from that article. Once this is completed, the child is going to attempt to reconstruct the newspaper article in the correct sequence. The key is to have the child place the paragraphs in proper order as they were originally found in the newspaper. This requires that the child read the information and determine the correct, logical sequence.

Easy to hard: -Increase the number of paragraphs that are to be placed in proper sequence. ie. using longer newspaper articles.
-Time the activity

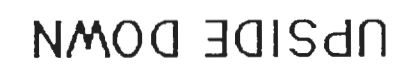
Some further suggestions:

*Allow the child enough time to read over the original article so that the child is prepared.

* For younger children who are unable to read nor comprehend a newspaper article, use a **comic strip.** Have the child cut out each scene from the entire comic strip. Then have the child reconstruct the correct, logical sequence of the comic strip.

VISUALIZATION

DEFINITION: Visualization refers to the ability to form a mental image of an object or picture when the object is not actually present to be seen It is the act of forming mental pictures. "It is a vision of something that is not actually present. 55"
Visualization also includes the ability to mentally manipulate visual images. This refers to the ability to visually image how an object would appear if, for example, the object was turned upside down. Visualization skills allow us to imagine this without having to physically view an upside down object.



Visualization is a strategy that can be used by many individuals to enhance learning and performance. For example, a child learning to read as well as an Olympic gymnast can benefit from good visualization skills. Imagery can be used to help understand words, stories, mathematical concepts and geometric designs. Furthermore, it can be a helpful aid in learning and remembering words and letter sequences -spelling words.

When a child is learning to read, the child must learn that words are formed by letters of the alphabet. A child must learn that this word represents an actual concrete object unlike the word. Visualization can help in this learning process. For instance, when the child reads a word such as "dog", in his mind he may imagine seeing a dog. The letters are no longer squiggly lines in print. The letters take on associations with objects or pictures in the real world. A child can understand with visual imaging of pictures.

Observations and behaviors associated with poor visualization skills:

-Has difficulty visualizing what is read silently or orally
-Slow or poor reading and comprehension ability
-Difficulty learning new materials
-Difficulty anticipating the new step in tasks presented
-Poor spelling
-Poor recall of visually presented materials
-May have tendency to verbalize to self for reinforcement while reading silently
-Difficulty with mathematical concepts
-May use other sensory modalities when doing visual tasks
-Tendency to avoid new situations

Classroom techniques to help a child with poor visualization skills:

-encourage child to partake in visual imagery tasks
-encourage child to tell stories from pictures
-allow the child to be multisensory especially when doing visual tasks
-allow inner verbalization with silent reading
-learning by doing teaching strategies

Goal of Activities:

To improve the child's ability to visualize mental images

ACTIVITIES:

1. Drawing a familiar scene
2. Picture stories
3. Comic book visualization
4. Word scramble
5. Object visualization
6. Puzzle visualization
7. Sensory visualization
8. Mental directions

VISUALIZATION SKILL BUILDER ACTIVITIES

ACTIVITY #1: DRAWING A FAMILIAR SCENE

PURPOSE: To allow the child to visualize familiar actions and experiences.

MATERIALS: Paper and pencils/crayons/color markers

PROCEDURE: Have the child draw a familiar activity from memory. Keep it simple. The purpose here is not how well the child is able to draw, rather it is what the child is able to visually recall from experiences. Allow the child time to visually think about what he/she is going to draw. Encourage the child to imagine a picture and draw what they are imagining.

Easy to hard: -Increase the amount of details the child is expected to think of about the scene

Some suggestions of familiar actions to use in this exercise:

Children playing baseball
Dog running in the park
Rabbit eating carrots
Children jumping rope
Boy playing with his toy
Girl picking flowers
Children laughing
Birthday party
The school playground
Playing your favorite game
Fishing in a lake

ACTIVITY #2: PICTURE STORIES

PURPOSE: To develop the ability to look at a picture and be able to tell a story or describe what is happening. This allows the child to form a mental image of what is going on in the picture.

MATERIALS: Pictures from magazines or books. Pictures can be fictional or nonfictional.

PROCEDURE: Have the child look at a picture of a magazine without reading anything about the picture. Then have the child describe what he/she thinks is going on in the picture. The purpose of this activity is to allow the child to form mental images of the picture. Allow for creativity!

Easy to hard: -Start with pictures that the child is familiar with and proceed to unfamiliar pictures
-Increase the detail and complexity of the pictures

Some further suggestions:

*Avoid asking the child yes/no questions about the picture. Instead ask the child to describe details. For example, ask the child to name any characters in the picture. Ask the child questions about who, what, where, when, why and how.

ACTIVITY #3: COMIC BOOK VISUALIZATION

PURPOSE: To develop the ability to look at a comic strip and be able to tell a story or describe what is happening. This allows the child to form a mental image of what's going on in the comic strip.

MATERIALS: Comic strip with no written captions. This can be accomplished by covering over the words of a comic strip. Masking tape or white-out works well.

PROCEDURE: Have the child look at the comic strip pictures and try to imagine what is going on. Have the child describe what is going on in the comic as well as what the characters could be saying. The child can fill in the captions with his/her own words. Allow for creativity.

Easy to hard: -Start with simple comic strips with simple, obvious pictures of what is going on and proceed to comics that are more thought-provoking

Some further suggestions:

*Try to select comic strips that are interesting for the child. If there does not seem to be enough space within the comic strip for the child to write his/her words, then provide extra paper on which the child can use to write everything down.

ACTIVITY #4: WORD SCRAMBLE

PURPOSE: To develop the ability to visualize a complete word from scrambled letters.

MATERIALS: Letters of the alphabet. Letters can be cut out.
SEE APPENDIX D for ALPHABET LETTERS.

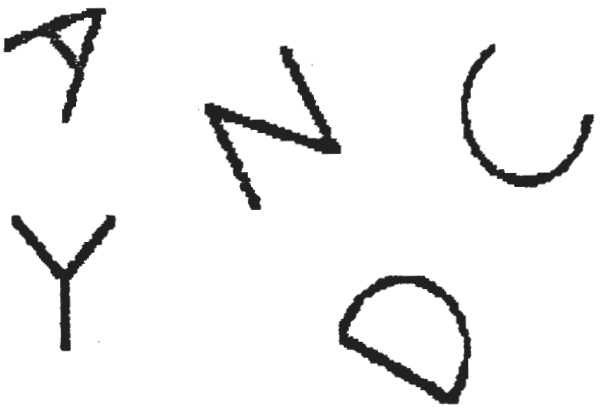
PROCEDURE: Select a word that should be familiar to the child. One in which the child can spell. Then arrange the letters that form the word in a scrambled fashion. Without touching the letters to organize or orient them in the appropriate manner, have the child try to guess what the word is.

Easy to hard: -Increase the difficulty of the word
-Time the activity

WORD SCRAMBLE DEMONSTRATION

SCRAMBLED WORD:

CANDY



ACTIVITY #5: OBJECT VISUALIZATION

PURPOSE: To develop the ability to visualize an object based on nonvisual information. Encourages the use of other sensory modalities to form visual images.

MATERIALS: Blind-fold
Objects familiar to the child

PROCEDURE: Blind fold the child then present the child with an object. The child is allowed to touch, smell, and listen to the object but should not be able to physically see the object. Have the child describe in detail what the object is, what it looks like, and what it is used for. Encourage the child to form a mental image of what the object is and possibly describing from memory, more details about the object. Allow for creativity.

Easy to hard: -Start with simple figures and proceed to objects that have detailed, complex forms.

Some suggestions of objects to use:

fruit ie. apple, orange, grapes, banana, grapefruit
toys
dolls and teddy bears
other foods ie. cereal box, ketchup bottle
spoons & forks
clothing ie. socks, T-shirts, shorts
*use nonabrasive objects
*use nonbreakable objects

ACTIVITY #6: PUZZLE VISUALIZATION

PURPOSE: To develop the ability to visualize a completed picture from pieces of a puzzle.

MATERIALS: Build your own puzzle by taking a picture and cutting it into pieces which are approximately the same size.

PROCEDURE: Have the child look at a piece of the picture and describe what he/she sees. Perhaps the child may need to look at a couple pieces before the child starts to get a mental image. Then work with the child at trying to build the whole picture. Have the child look at every part and try to imagine how it fits into the whole picture.

Easy to hard: -Start by using large pieces and proceed to smaller pieces. Task becomes more difficult when there is more pieces
-Increase the detail of the pictures used

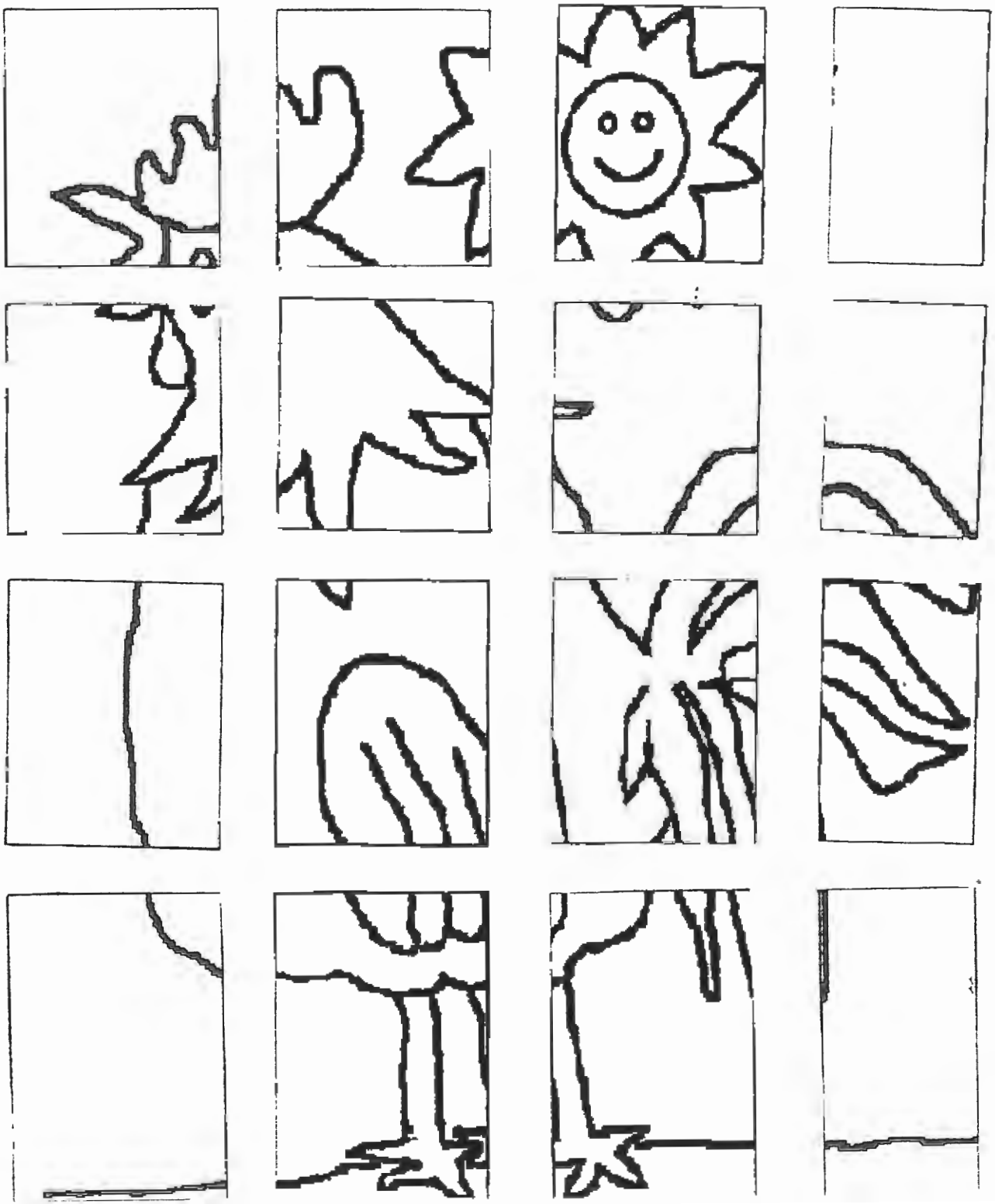
Some further suggestions:

*The picture pieces can be used over again as repetitive use will help develop a mental image of what the child is trying to form.

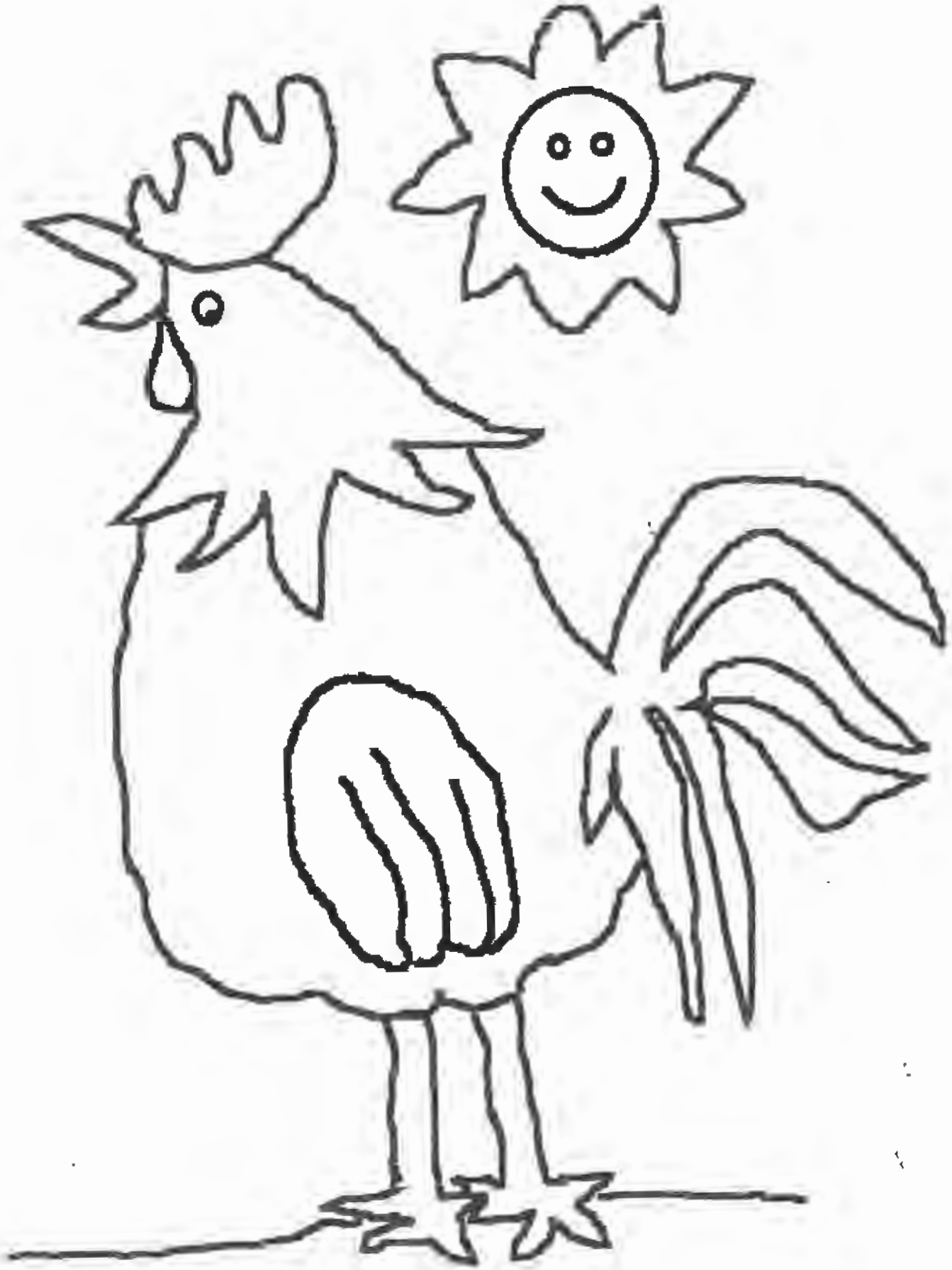
*Can provide clues to help the child develop a mental image. Ask questions to the child to help the child form images.

PUZZLE VISUALIZATION DEMONSTRATION

Look at these pieces of a puzzles. Together they form a picture. What picture do you see?



PUZZLE VISUALIZATION DEMONSTRATION: COMPLETED PICTURE



ACTIVITY #7: SENSORY VISUALIZATION

PURPOSE: To develop the ability to visualize objects of a certain color, texture, taste or smell.

MATERIALS: none

PROCEDURE: Have the child sit with his/her eyes closed. Ask the child to describe to you as many objects as possible that have a certain quality ie. smell, taste, texture, or color. This allows the child to form mental pictures of objects that have this particular quality. Avoid situations where the child physically and visually searches for objects to match the description. Encourage mental visual thinking. Ask the child to describe the objects in detail.

Easy to hard: -Start with things the child is very familiar with and proceed to things that the child may not be as familiar with

Some suggestions of questions to ask the child:

What can you think of that feels .....?
ie. sharp, smooth, rough, bumpy, soft, furry, prickly, sticky, light, heavy

What can you think of that smells .....?
ie. good, bad, beautiful, stinky, strong, odorless

What can you think of that tastes .....?
ie. sweet, sour, bitter, spicy, crunchy, chewy

What can you think of that is the color ....?
ie. red, blue, black, yellow, green, orange

ACTIVITY #8: MENTAL DIRECTIONS

PURPOSE: To develop the ability to visualize places and to mentally think about directions.

MATERIALS: none

PROCEDURE: Have the child sit with his/her eyes closed. Tell the child that we are going to go on a trip. Then ask the child to describe to you how we are going to get there. Can use familiar experiences for the child or allow the child to go on a creative adventure. Have the child describe details as he/she travels to the place. Encourage the child to form a mental image of himself/herself on the journey.

Easy to hard: -Start with familiar experiences and proceed to less familiar

Some suggestions of places to go:

Going to park
Going to the shopping center
Driving to the lake
Visiting the zoo
Going to the farm
Diving in the ocean
Climbing in the mountains

*Use locations or places where the child likes to go or would like to go in the future.

DIRECTIONALITY & LATERALITY

Two important concepts that refer to **position in space** in relation to the observer are directionality & laterality 56,57:

LATERALITY: Laterality refers to bodily awareness and the ability to feel "inner directions" of the body. It is an internal awareness of the 2 sides of the body with the midline separating the right and left side. It is the understanding of the differences between the 2 sides as well as the relationship the sides have to each other.
DIRECTIONALITY: Directionality refers to the ability to perceive the relationship of the "inner directions" of the body to an object in space. It is the understanding of location in space relative to our body or other objects. It is an awareness of left, right, up or down in relation to a person or object's position in space.

Directionality and laterality are important spatial and organizational concepts. "Only after a child has a complete understanding of his two sides (laterality) and his midline can he have a proper understanding of his own position in space compared to an external object (directionality) 58. Understanding space and orientation is necessary when learning about the environment and how to move about the environment.

Reading is based on page organization such as from left to right and top to bottom. Words are also structured from left to right. To identify a word, a child must identify the letters in the word as well as their position in the word. A child who has difficulties understanding left and right concepts, may have difficulties differentiating certain letters and words. These children may reverse letters and words. For example, the letter "b" for the letter "d" ; the word "net" may be confused with "ten" .

These skills are also important for arithmetic such as addition and subtraction as well as for reading maps in social studies.

Observations and behaviors associated with poor laterality concept:

-Confuses left and right hands
-Inability to understand concepts of body awareness
-Delayed development of hand dominance or handedness
-Difficulty with tasks that require crossing the midline
-May perform tasks on the left side with the left hand and right side tasks with the right hand
-Confuses left and right shoes
-Spatial confusion
-Poor balance
-Relies on visual cues or identifies right and left with mnemonics such as ring, watch, writing hand

Observations and behaviors associated with poor directionality concept:

-Frequently reverses letters, numbers or words
ie. reverses "b" vs "d"; "6" vs "9", "was" vs "saw"
-Difficulty understanding directions ie. up, down, left, right, forward, backward
-Poor spatial organization and spatial confusion
-Difficulty understanding that reading progresses from left to right and top to bottom
-Poor and unorganized searching skills
-Confuses directions ie. up, down, right, left
-Reads words backwards

Classroom techniques to help a child with poor directionality & laterality development:

-Label directions on paper with up, down, left or right
-Assure that the child uses correct letters and number orientations
-Highlight letters or words that are commonly reversed
-Encourage activities with directionality concepts
-Point to the direction when giving instructions

Goal of Activities:

To build an internal bodily awareness of left and right as well as improve understanding of directional concepts. Need to first build spatial awareness of self then awareness of self projected into space and of relationships of objects to each other in space.

ACTIVITIES:

1. Simon Says
2. Marching Band
3. Controlled Body Movements
4. Directional Arrows
5. Directional "C"
6. Road Map
7. Step by Step
8. Grid Maps

LATERALITY AND DIRECTIONALITY SKILL BUILDER ACTIVITIES

ACTIVITY #1: SIMON SAYS

PURPOSE: To improve a child's awareness of left and right body parts. Laterality development activity.

MATERIALS: none

PROCEDURE: Simon Says is a game to play with children in which directions are given to the child to carry out. The basic rule of Simon Says is the following: When giving the directions to the child, if the instructor says the phrase "Simon says" then the child must perform the directions exactly as given. If the instructor does not say the phrase "Simon says" then the child does not do carry out the directions.

For example:

Direction: Simon says to raise your left hand.
Correct Response: Child raises their left hand.
Direction: Lift up your right foot.
Correct response: Child does not lift his/her right foot.

Easy to hard: -Start with simple one step directions and work toward directions with several steps.
-Try to add steps where the child has to project from one side to the opposite side of the body. ie. use right arm to touch left leg.

Some suggestions for Simon Says as a Laterality Game:

Simon says .... Lift your left or right foot, leg, arm.
Raise your left or right hand, elbow, shoulder, knee, eyebrow, thigh.
Tilt your head to the left or right.
Lean to the left, right, forward, backward
Touch your left shoulder with your right hand.
Touch your right knee with your left hand.
Swing or turn to the right or left.
Wiggle your right/left fingers or toes.
Hop on your right/left foot.
Rotate your right arm forward and your left arm backward.

*The game can be reversed with the child giving the directions; however, the child must be aware of what the correct response to the directions would be. Watch for this perhaps by knowingly giving an incorrect response!

* Good directional words include: raise, touch, lean, shake, turn, hop, rotate, wiggle, blink, clap, point to, pinch, and tap.

LATERALITY AND DIRECTIONALITY SKILL BUILDER ACTIVITIES

ACTIVITY #2: MARCHING BAND

PURPOSE: To improve a child's awareness of left and right body parts and to move those body parts in a coordinated, rhythmic manner.

MATERIALS: music to march to, letter chart
SEE APPENDIX C for a LETTER CHART

PROCEDURE: Demonstrate to the child how to correctly march. This involves raising the right knee and the right arm simultaneously then raising the left knee and left arm. Have the child walk using these synchronized movements. The movements should be exaggerated to show the child is aware of right and left coordination. Once the child shows competency and control with raising the right knee and arm together and left knee and arm, have the child try marching in time to music. Marching to the music helps the child develop rhythm.

Easy to hard: -Adding music increase the task difficulty as well as increasing the speed of the music
-Increase the task workload ie. letter chart

Some further suggestions:

*Have the child march on a stationary spot. While doing so, ask the child questions to distract the child. Ask thought provoking questions ie. spelling, math, homework

*Have the child march on a stationary spot while calling off letters from wall charts. Keeping in rhythm!

ACTIVITY #3: CONTROLLED BODY MOVEMENTS

PURPOSE: To improve a child's awareness of left and right body parts as well improve a child's ability to make controlled and smooth body movements.

MATERIALS: none

PROCEDURE: Demonstrate to the child a particular body movement. For example, raise your left hand. At this point the child merely watches your movement. Now give instructions to the child to repeat this same movement. The child must raise their left hand.

Easy to hard: -Skill sequence:

1.Stand in front of the child with both you and the child facing the same direction. The child then replicates the exact movement. May have the child verbally describe the movement.

2. Stand facing the child. This step may be difficult for the child because the child has to recognize whether your right or left side is involved in the movements. Then the child must use that side to correctly perform the movement. The child cannot simply replicate the exact movements because the child is now facing the opposite direction of you. Have the child verbally describe your movement.

Some further suggestions:

* Reverse roles and have the child initiate the movements. Monitor if the child is paying attention to your responses by performing an incorrect response every so often.

LATERALITY AND DIRECTIONALITY SKILL BUILDER ACTIVITIES

ACTIVITY #4: DIRECTIONAL ARROWS

PURPOSE: To improve a child's awareness of self in relation to directions in space.

MATERIALS: directional arrow chart, metronome
SEE APPENDIX E for DIRECTIONAL ARROW CHART

PROCEDURE: Place the directional arrow chart in front of the child (the refrigerator works well for this!) Have the child look at the arrow, call off the direction that the arrow points, and move their hands in that direction. Have the child work smoothly and consistently through the page of arrows from left to right and top to bottom .

Easy to hard: -Have the child bounce on a trampoline or stand on a balance board while calling off the arrow directions
-Have the child look at the direction of the arrow but perform a body movement in the opposite direction. For example, if the arrow points up, have the child point his/her hands down.

Some further suggestions:

*To help build rhythm and consistency, use the metronome. Start with a slow rhythm . The key is to build smooth, flowing movements.

*By calling off the directions out loud, this provides auditory reinforcement. Work toward eliminating this step.

*The coordinating hand movements can also be varied using arm or feet movements. Integrating other body movements can help build gross motor skills too.

ACTIVITY #5: DIRECTIONAL "C"

PURPOSE: To improve a child's awareness of self & directions in space.

MATERIALS: directional "C" chart, metronome
SEE APPENDIX f for DIRECTIONAL "C" CHART

PROCEDURE: Place the directional "C" chart in front of the child (the refrigerator works well for this!) Have the child determine the direction of the opening. The opening of the "C" can be up, down, to the left, or to the right. Have the child call off the direction of the opening working through the page from left to right and top to bottom. Also have the child move their hands in the direction of opening. Encourage the child to be smooth, controlled and consistent.

Easy to hard: -Have the child bounce on a trampoline or stand on a balance board while performing the task
-Have the child look at the direction of the "C" but perform a body movement in the opposite direction. For example, if the opening points up, have the child point his/her hands down.

Some further suggestions:

*To help build rhythm and consistency, use the metronome. Start with a slow rhythm. The key is to build smooth, flowing movements.

*By calling off the directions out loud, this provides auditory reinforcement. Work toward eliminating this step.

*The coordinating hand movements can also be varied using arm or feet movements. Integrating other body movements can help build gross motor skills too.

LATERALITY AND DIRECTIONALITY SKILL BUILDER ACTIVITIES

ACTIVITY #6: ROAD MAP

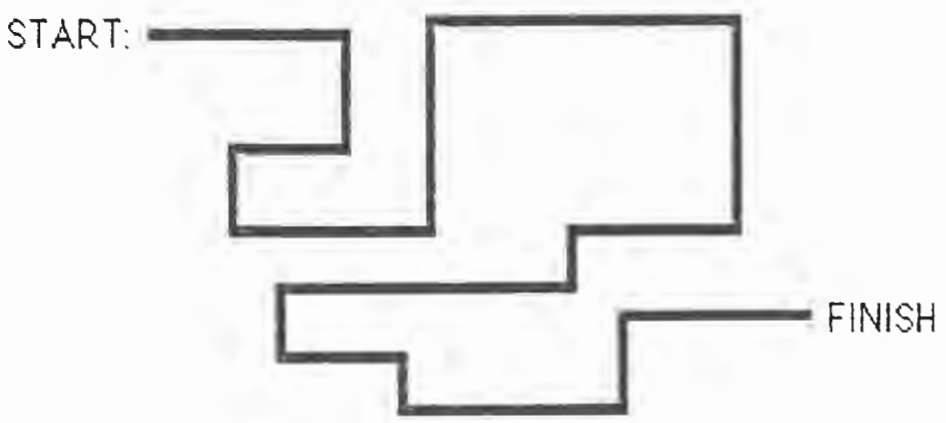
PURPOSE: To improve a child's awareness of directions in space.

MATERIALS: masking tape or long piece of string

PROCEDURE: Place masking tape or string on the floor in a pattern as described below. The tape is positioned to form a road map. The key is to have the child start at one end of the tape and work his/her way down the pathway stopping before every corner. At each corner, have the child verbally tell you which direction he/she must turn at this corner.

Easy to hard: -Start with simple maps and proceed to more complex maps with more corners
-Have the child tell you the direction that is opposite to the actual direction given

DEMONSTRATION OF ROAD MAP



LATERALITY AND DIRECTIONALITY SKILL BUILDER ACTIVITIES

ACTIVITY #7: STEP BY STEP

PURPOSE: To improve a child's self awareness in relation to directions in space.

MATERIALS: none

PROCEDURE: Tell the child you are going to play a game. In this game, directional instructions are given to the child which the child must then correct perform. Specify the number of steps the child must take. Specify the direction the child must go: forward, backward, to the left, to the right, to the north, south, east, west.

Example Sequence:

1. Take 2 steps forward
2. Turn to the left
3. Take 3 steps forward
4. Turn to the right
5. Take 4 steps forward

Easy to hard: -Increase the number of steps in the sequence
-Make the child remember the sequence and perform the steps from memory

Some further suggestions:

*Have the child move in the direction opposite to what was instructed ie. if the instructions are to move forward, the child moves backwards instead.

LATERALITY AND DIRECTIONALITY SKILL BUILDER ACTIVITIES

ACTIVITY #8: GRID MAPS

PURPOSE: To improve a child's directional awareness of space and map reading ability

MATERIALS: grid maps
SEE APPENDIX G for a GRID MAP

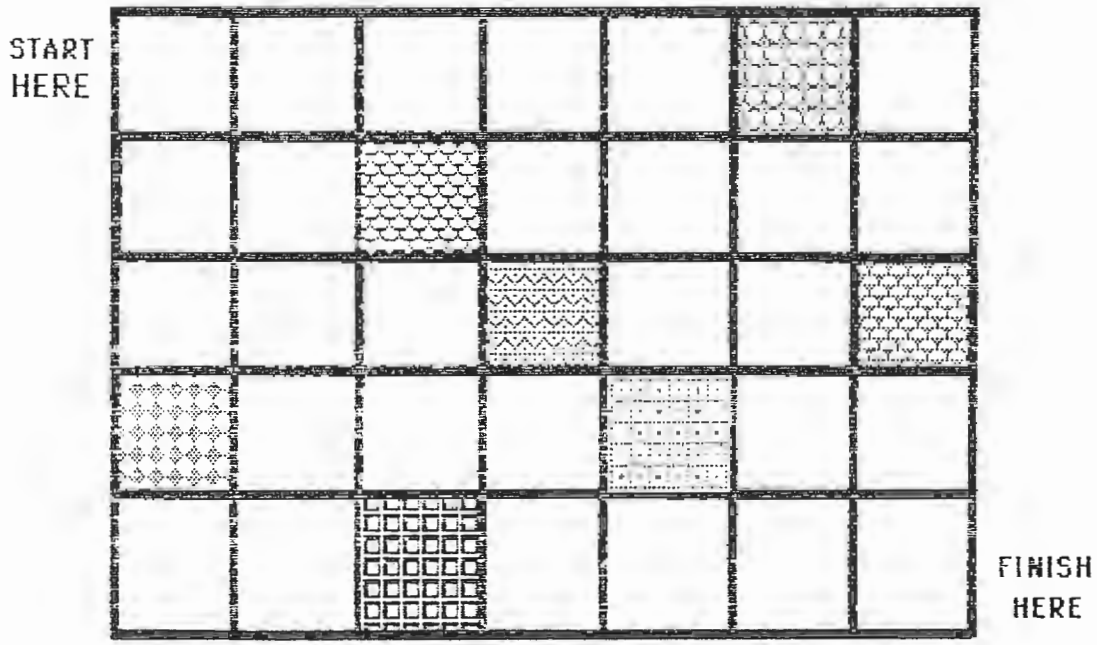
PROCEDURE: Design a grid map as demonstrated below. This is a game where the child must give directions on how to get from the start to the finish. The child must specify the direction to go and the number of squares on the grid to move. There may be several acceptable pathways for the child to describe. Encourage the child to use directional words such as forward, backward, to the left, to the right, north, south, east or west. Prior to playing the game, have the child identify these particular directions ie. which way is north?

Easy to hard: -Increase the complexity of the grid map
-Time the activity

GRID MAP DEMONSTRATION

Instructions: Give the direction and the number of squares that must be moved to get from the start to the finish.

Example: Move 4 squares forward. Turn right and move 1 square. Go forward 3 squares. Turn right and move 4 squares. Then move forward 1 square.



VISUAL MOTOR INTEGRATION

Visual motor integration : refers to the ability to coordinate vision with motor responses of the body or parts of the body to enable an individual to perform smooth and controlled movements.

A. GROSS MOTOR

DEFINITION: Gross motor integration refers to movements of skeletal or large muscles such as the arms and legs. It is the ability to coordinate individual body parts separately and in conjunction with other body parts to produce total efficient body movement. It refers to large muscle control for movements such as walking or standing.

A child with poor gross motor integration may seem unaware of body parts and their particular function. The child does not have smooth control of movements of body parts. This child may seem to lack general coordination and has poor balance. A child with poor gross motor coordination may have difficulties skipping, hopping, throwing and catching a ball. 59,60

Observations and behaviors associated with poor gross motor integration:

-Awkwardness and clumsiness ie. lacks fluidity of movements
-Poor balance
-Difficulty standing or hopping on one foot
-Poor eye hand coordination
-Cannot name body parts
-Does not seem to have control over movement and coordination of body parts

-Does not like participating or performs poorly in sports activities
-Poor ball tossing and catching skills
-Tends to play with younger children
-Has difficulty with rhythmic activities

Classroom techniques to help a child with poor gross motor integration:

-encourage individual motor activities
-select games to help develop gross motor skill
-avoid situations in which the child may appear awkward to his/her peers
-encourage repetitive gross motor activities

Goal of Activities:

To improve the coordination of large muscles to produce efficient total body movement and balance.

ACTIVITIES:

1. Hopping Activities
2. Ball bouncing
3. Bean Bag toss
4. Bean Bag in the bucket
5. Tape Walking
6. Jump rope
7. Step-by-step walking
8. Blackboard rotations

GROSS MOTOR INTEGRATION SKILL BUILDER ACTIVITIES

ACTIVITY #1: HOPPING ACTIVITIES

PURPOSE: To improve a child's gross motor and balance skills with hopping activities.

MATERIALS: none

PROCEDURE: There are different hopping activities to have the child perform. With every activity, encourage smooth, consistent, rhythmic hopping with balance maintained.

Skill Sequence:

1. One foot forward-backward: With right foot first, hop 10 paces forward then 10 backward. Then do the same with the left foot.
2. One foot side to side: With right foot first, hop 10 times moving side to side. Then repeat with left foot.
3. One foot standing hops: With right foot first, hop on the same spot 10 times. Then repeat with left foot.
4. One foot rotational hops: Again with right foot first, hop 2 rotations in clockwise direction and 2 rotations in counterclockwise direction. Repeat with left foot.
5. Repeat steps 1-4 hopping with both feet.

Easy to hard: -Can increase skill by increasing the number of hops required per step in the sequence.
-Can ask the child questions while the child is hopping to serve as distractors to the child.

Example: Ask the child the following: alphabet, count to 10, days of the week, spelling words, math questions

ACTIVITY #2: BALL BOUNCING

PURPOSE: To improve a child's gross motor and visual motor integration with ball bouncing activities.

MATERIALS: playground ball, metronome, letter chart
SEE APPENDIX C for LETTER CHART

PROCEDURE: There are different ball bouncing activities to have the child perform. With every activity, encourage smooth, consistent, rhythmic bouncing with balance maintained.

Ball bouncing sequence:

1. Single-handed: With either right or left hand (start with child's dominant hand if possible) and have the child try to bounce the ball 20 times consistently and in control. Encourage the child to bounce the ball in the same spot and maintain good posture and balance. Switch to the other hand and try for 20 controlled bounces. Have the child place their hand that is not bounding the ball behind their back.

2. Both hands: With 2 hands, have the child try to bounce the ball 20 times with both hands in control.

3. With movement: With right hand, have the child bounce the ball while walking forward. Then repeat with the left hand then with both hands. Can make task more difficult by having the child walk forward and backward.

4. Off the wall: With both hands, have the child throw the ball against a wall ie. preferably outside and catch the ball on the rebound. Do this 20 times.

5. Off the wall & clap: With both hands, have the child throw the ball against a wall, clap their hands together once then catch the ball on the rebound. Do this 20 times. Can make this more difficult by increasing the number of claps.

Easy to hard: -Have the child bounce the sequence to the regular beat of a metronome
-Increase the number of steps in the bounce sequence

Some further suggestions:
When the child appears to have controlled bouncing ability:

*Ask the child questions to increase the cognitive demand. For example, ask the child about the alphabet, counting numbers, days of the week, spelling, math and homework questions.

*Have the child call out letters in order from a letter chart while bouncing the ball.

ACTIVITY #3: BEAN BAG TOSS

PURPOSE: To improve a child's gross motor and visual motor integration with bean bag tossing activities.

MATERIALS: bean bags, letter chart
SEE APPENDIX C for LETTER CHART

PROCEDURE: There are several bean bag activities to have the child perform. Encourage smooth, consistent, rhythmic movements with balance and posture maintained.

Bean bag skill sequence:

1. Have the child toss the bean bag about 2 feet in the air and catch it with both hands. Have the child do this 10 times. This can be made more difficult by tossing the bag higher in the air. Encourage the child to follow the path of the bean bag with his/her eyes.

2. Have the child toss the bean bag about 2 feet in the air and then catching it with the same hand. Try for 10 controlled tosses. Have the child switch hands. Can increase the height of the toss to add difficulty.

3. Have the child toss and catch the bag with the right hand. then toss and catch with the left hand. Alternate from right to left hand trying for10 controlled tosses and catches..

4. Reverse toss: Have the child toss the bag with the right hand and catch it with the left hand. Try for 10 controlled tosses then switch to the left hand tossing and right hand catching.

Easy to hard:

Once the child is successful at basic tossing and catching:

1. Have the child try walking forward and backward while doing the above sequence.
2. Ask the child cognitive questions while doing the sequence.
3. Have the child call out letters from the letter chart while tossing and catching the bean bag.
4. Have the child toss the bean bag, clap, then catch the bean bag. Add this to the above sequence.

Some further suggestions:

*Can toss the bean bag back and forth to the child. Stand approximately 5 feet apart or further depending on child's ability. Encourage consistent, accurate throwing. Encourage the child to follow the path of the bean bag with his/her eyes.

ACTIVITY #4: BEAN BAG IN THE BUCKET

PURPOSE: To improve a child's gross motor ability, accuracy and balance with bean bag tossing activities.

MATERIALS: bean bags, large pale or trash can, balance board
A 2x4 board can be used as the balance beam.

PROCEDURE: Have the child perform these activities consistently, rhythmically and in balance.

Skill sequence:

1. Place a large pale or trash can approximately 3 feet from the child. Have the child try to throw the bean bag into the bucket. Have the child try to throw with right hand, left hand and even with both hands together.

2. Have the child stand on one foot and try to throw the bean bag into the bucket. Then have the child reverse the foot.

3. Have the child stand on the balance board (ie. the 2x4). First have the child with their right foot forward. The toe of the left foot should touch the heel of the right foot. From 3 feet away, have the child try to throw the bean bag into the bucket while keeping his/her balance on the board. Switch to the left foot forward.

4. Have the child stand on one foot on the balance board and try to throw the bag into the bucket. Repeat with the child standing on the other foot.

Easy to hard:
- -Increasing the throwing distance, increases this task demand.
- -Increasing the workload of the task
- -Ask cognitive questions while doing tasks

ACTIVITY #5: TAPE WALKING

PURPOSE: To improve a child's gross motor ability, posture and balance with walking.

MATERIALS: masking tape, letter chart
SEE APPENDIX C for LETTER CHART

PROCEDURE: Place a piece of masking tape in a straight line for approximately 8 feet.

Skill sequence:

1. Have the child walk forward in a straight line heel to toe. Encourage proper balance and posture with eyes and head looking straight ahead. Child can walk with hands out to the side if this improves posture and balance.
2. Have the child walk backwards as above.
3. Have the child close his/her eyes while walking forward.
4. Have the child close his/her eyes while walking backward.
5. Have child call off letters on letter chart while walking forward and backward.

Easy to hard: -Increase the workload of the task
-Ask the child cognitive questions ie. names of people, favorite things,the alphabet, number counting, spelling and math questions.

Some further suggestions:

*Bounce the playground ball while doing walking sequence
See Activity #2 Gross Motor
*Toss bean bag while walking on tape line
See Activity #3 Gross Motor

GROSS MOTOR INTEGRATION SKILL BUILDER ACTIVITIES

ACTIVITY #6: JUMP ROPE

PURPOSE: To improve a child's gross motor ability, posture and balance with jumping rope activities. Jumping rope involves coordination of arm and leg movements.

MATERIALS: jumping rope

PROCEDURE: There are several activities to perform with a jumping rope.

Skill sequence for easy to hard:

1. Leg movement only: Place the rope in a circle on the floor. Have the child jump with both feet together from the outside to the inside of the circle and back out again. Try to make a full revolution around the circle. Encourage the child to jump in control, with rhythm and balance. Can modify this technique by having the child hop back and forth with one leg on the outside of the circle and one on the inside. Alternate hopping from one leg to the other while making a revolution around the circle.

2. Arm and leg coordination: Have the child swing the rope under the body back and forth then jump over the rope with both legs together 10 jumps, right leg leading for 10 jumps then left leg leading for 10 jumps.

3. Have the child swing the rope in a complete loop over the body ie. skipping. Jump the rope using both legs 10 jumps, right leg leading for 10 jumps then left leg leading for 10 jumps.

*Encourage the child to jump consistently and with rhythm.

GROSS MOTOR INTEGRATION SKILL BUILDER ACTIVITIES

ACTIVITY #7: STEP-BY-STEP WALKING

PURPOSE: To improve a child's gross motor ability, posture and balance.

MATERIALS: Cut fabric into the shape of foot steps. Cut approximately 10 right foot and 10 left foot shapes. Can make the shapes of different colors ie. right foot=blue fabric , left foot=red fabric.

PROCEDURE: Place the footsteps on the floor with a reasonable separation between them ie. a distance in which the child can readily reach without having to jump. Have the child follow the footsteps with right foot on right steps and left foot on left steps. Encourage the child to step accurately and keeping proper posture and balance.

Easy to hard: -Increase the speed of stepping
-Have the step in rhythm by using a metronome or tapping a regular beat.
-Ask the child cognitive questions.

Some further suggestions:

*Have the child call off letters of a letter chart
SEE APPENDIX C for LETTER CHART

GROSS MOTOR INTEGRATION SKILL BUILDER ACTIVITIES

ACTIVITY #8: BLACKBOARD ROTATIONS

PURPOSE: To improve a child's gross motor ability

MATERIALS: blackboard, 2 pieces of chalk

PROCEDURE: Have the child stand facing the blackboard holding a piece of chalk in both hands. Have the child draw simultaneous with both hands. The key is to have both hands drawing in unison at the same speed, size and shape. Try to maintain continuous motion by tracing over the figures repetitively. For example, when drawing a line have the child start from top to bottom then continue from bottom back up to top - over and over. Expect the child to draw more confidently with his/her dominant hand.

Some suggestions of figures to draw:

vertical lines
horizontal lines
diagonal lines
circles
"S" shaped line

Easy to hard: -Start simple with straight lines and then increase the complexity of the figures to draw
-Increase the speed of performance once controlled, consistent movement are obtained

Some further suggestions:

*It may help to draw a straight line separating the right and left sides so that the child stays on the appropriate side when drawing the blackboard figures.

B. FINE MOTOR

DEFINITION: Fine motor integration refers to the ability to coordinate the movement of the fine, small muscles of the body. The development of this control enables an individual to perform specific movements such as cutting and grasping Handwriting is an important fine motor task. 61,62

A child's ability to copy shapes and forms is important as this may reflect on that child's ability to copy letters. If a child has difficulty with copying diagonal lines or angles, that child may have trouble with letters such as "X", "Y", "Z". Good fine motor skills manifest as good handwriting ability and accurate copying skills whereas a child with poor fine motor integration is likely to have poor handwriting. A child struggling with writing often exerts more energy on the writing task and, in turn, has less energy devoted to comprehension of the written material.

A child with developed fine motor coordination may enjoy artistic activities such as coloring, drawing, painting, craftwork, sewing, or sports that involve precision hand eye coordination.

Observations and behaviors associated with poor fine motor integration:

-Poor handwriting skills
-Slow at handwriting tasks
-Disinterested in sporting activity
-Difficulty learning to tie shoes
-Poor drawing and coloring skills
-Disinterested in drawing, coloring, painting
-Difficulty with tracing tasks and staying on line
-Difficulty with cutting with scissors
-Poor copying skills

Classroom techniques to help a child with poor fine motor integration:

-allow taped or oral responses
-use large pencils and use of pencil grips
-allow the child more time to do written tasks
-encourage the child to practice handwriting repetitively
-allow the child to trace forms prior to copying
-start with large and work toward small

Goal of Activities:

To improve the child's fine motor skills and the integration of these fine movements with vision.

ACTIVITIES:

1. Stringing beads
2. Scissor cutting
3. Mazes
4. Line Tracing
5. Newspaper "Os"
6. Alphabet tracking
7. Coordination with tweezers
8. Rhythmic writing

FINE MOTOR INTEGRATION SKILL BUILDER ACTIVITIES

ACTIVITY #1: STRINGING BEADS

PURPOSE: To improve a child's fine motor ability and eye-hand coordination.

MATERIALS: string, beads

PROCEDURE: Have the child string a series of beads. This requires the child to manipulate the string and beads with his/her hands and fingers. The smaller the string and the beads, the more demanding the task.

Easy to hard: -Increase the difficulty of stringing task
ie. perhaps more precise requirements with a smaller string or bead
-Time the activity

Some further suggestions:

*Have the child practice threading a needle.

*Have the child string popcorn with a threaded needle. This is ideal at Christmas time.

*Can also use buttons to string together.

ACTIVITY #2: CUTTING WITH SCISSORS

PURPOSE: To improve a child's fine motor ability and eye-hand coordination.

MATERIALS: scissors, magazines or newspapers

PROCEDURE: Have the child use the scissors to cut out from newspapers or magazines. The key is to develop accuracy with cutting. Start with simple cuts such as straight lines and progress to curved or circular cuts. Start large and work toward smaller figures to cut. Start with wide and progress toward narrow figures.

Easy to hard: -Increase the difficulty of the task
ie. more corners, angles, diagonal lines to cut
-Decrease the size of the cutting material

Some suggestions of things to cut:

coupons from magazines
geometric shapes such as square, rectangle, triangle,circle
pictures from the magazine
ie. people, automobiles, food, other products
alphabet letters from magazines and newspapers
newspaper fringes

ACTIVITY #3: MAZES

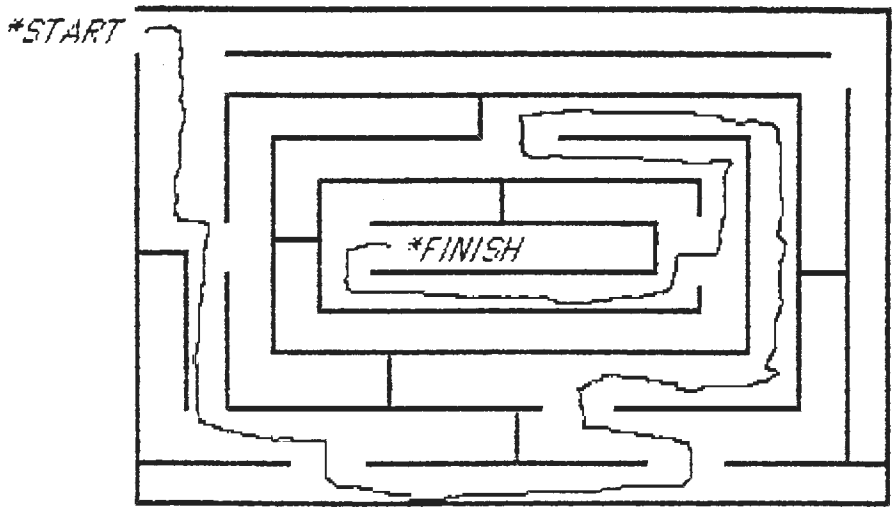
PURPOSE: To improve a child's fine motor coordination.

MATERIALS: pencil, mazes

PROCEDURE: Have the child complete the maze by drawing a line through the correct pathway. The child should draw the line straight and should keep in the middle of the pathway. Encourage the child not to get sloppy and touch the sides of the pathway. The key is to accurately draw between 2 lines.

Easy to hard: -Start with simple mazes and proceed to more difficult designs with more angles and diagonals

MAZE DEMONSTRATION



This example shows areas where the line was not drawn straight or in the middle. There are areas where the line touches the sides of the maze. Encourage the child to draw slowly and accurately!

FINE MOTOR INTEGRATION SKILL BUILDER ACTIVITIES

ACTIVITY #4: LINE TRACING

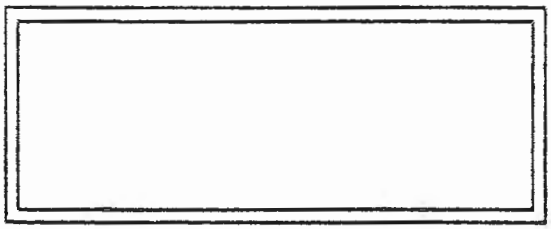
PURPOSE: To improve a child's fine motor coordination.

MATERIALS: pencil or color pencils, line tracing sheets

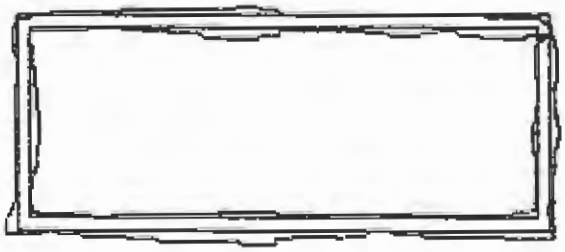
PROCEDURE: There are 2 ways to use the tracing worksheets.
METHOD 1: Have the child follow and trace over the lines as accurate as possible. Try to stay exactly on the lines.
METHOD 2: Have the child fill in the small area between the two lines. Try to stay within the borders. For either method, encourage the child not to get sloppy and not to go too fast.

Easy to hard: -Increase the difficulty of the task
-Time the activity

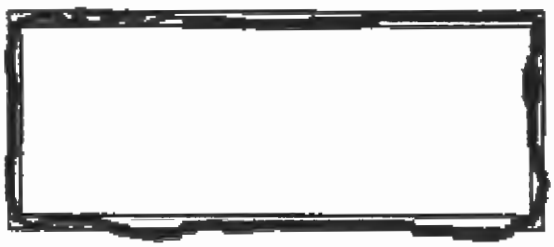
EXAMPLE FIGURE TO TRACE



METHOD 1: COPY OVER THE LINES AS ACCURATELY AS POSSIBLE.



METHOD 2: FILL IN THE SPACE BETWEEN THE TWO LINES



FINE MOTOR INTEGRATION SKILL BUILDER ACTIVITIES

ACTIVITY #5: NEWSPAPER "O's"

PURPOSE: To improve a child's fine motor ability and eye-hand coordination.

MATERIALS: pencil or pen, newspaper articles

PROCEDURE: Have the child fill in every letter "o" found in the newspaper article. This requires the child to scan the reading print and use pencil/pen to fill in the appropriate spaces.

Easy to hard: -Decrease the print size makes the demand more precise
-Time the activity. Award points for speed and for accuracy.
-Can have the child use a different color for each letter to make things more colorful and complicated.

Some further suggestions:

*In addition to filling in the "O", have the child also fill in the following letters:

a, b, d, e, g, p, q, A, B, D, P, Q, R

FINE MOTOR INTEGRATION SKILL BUILDER ACTIVITIES

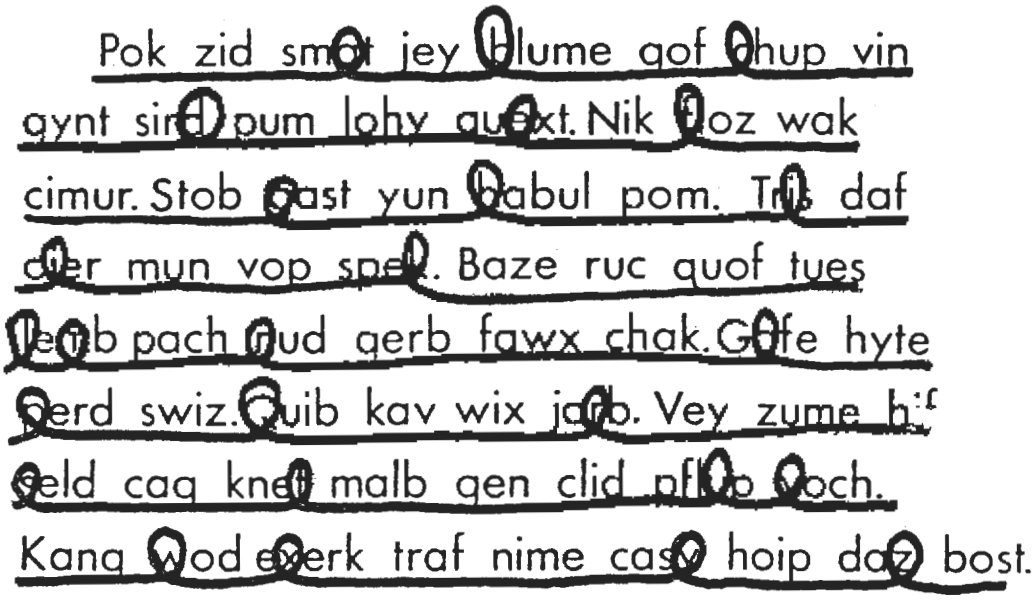
ACTIVITY #6: ALPHABET TRACKING

PURPOSE: To improve a child's fine motor coordination.

MATERIALS: pencil or pen, Michigan tracking sheets

PROCEDURE: The child scans the Michigan tracking sheet from left to right, top to bottom looking for all the letters of the alphabet. The letters are to be found in order. As the child scans across all the letters, have the child draw a straight line underneath all the letters until the appropriate alphabet letter is found. Have the child draw a loop (counterclockwise) around that appropriate letter and then continue with drawing the straight line underneath.

Easy to hard: -Decrease the size of the print
-Time the activity



FINE MOTOR INTEGRATION SKILL BUILDER ACTIVITIES

ACTIVITY #7: COORDINATION WITH TWEEZERS

PURPOSE: To improve a child's fine motor ability and eye-hand coordination.

MATERIALS: tweezers, small objects

PROCEDURE: First demonstrate to the child how to use tweezers to pick up objects then allow the child use the tweezers. Have the child pick up an object and place it in a container using just the tweezers.

Easy to hard: -Smaller objects are harder to pick up
-Smaller container openings are harder to place the objects in
-Time the activity

Some further suggestions:
Suggestions of objects to use:
- rice
- cereal
- cake sprinkles

Some good containers to use:
- empty spice containers, photography film vials, any small empty bottles

*chopsticks would also work well instead of tweezers
*Can mix different objects together and have the child put certain objects in certain containers. Example, mix rice and cake sprinkles. Have the child put the rice in one container and the sprinkles in a different container.

FINE MOTOR INTEGRATION SKILL BUILDER ACTIVITIES

ACTIVITY #8: RHYTHMIC WRITING

PURPOSE: To improve a child's fine motor ability and eye-hand coordination and to aid in the development of handwriting skills.

MATERIALS: lined paper, pencil/pen/chalk

PROCEDURE: Copy the rhythmic writing patterns from left to right. Encourage the child to stay within the lines of the paper and the draw consistent and controlled figures. Repetition is the key. Encourage relaxed, flowing, rhythmic movements of the arm, hand, and eyes together as well as good posture.

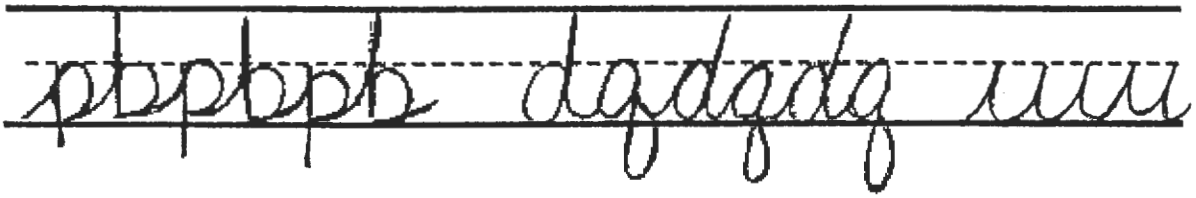
Easy to hard: -Increase the complexity of the figure or pattern
-Time the activity
-Change the size of the writing paper
ie. the smaller the line spacing, the more difficult the task

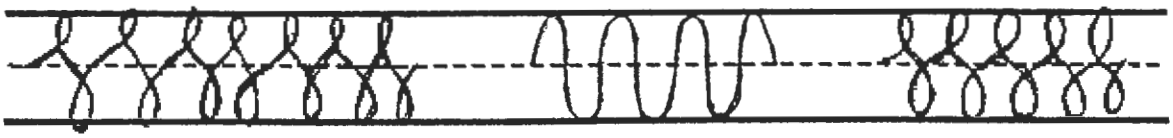
Some further suggestions:

*Encourage the child to produce the patterns consistently, controlled and with rhythm. Perhaps a metronome may help to achieve this.

Examples of rhythmic patterns are found on the following page.

RHYTHMIC WRITING PATTERNS





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APPENDIX A

RECORDING SHEET

CO NG IEE

PERFORMANCE RATING:  POOR  OK  GREAT

ACTIVITY: Date: Rating:					
ACTIVITY: Date: Rating:					
ACTIVITY: Date: Rating:					
ACTIVITY: Date: Rating:					

APPENDIX B

SIGHT WORD LIST

EKWALL BASIC SIGHT WORD LIST

a	make	oh	an
did	said	you	find
have	we	your	is
know	big	about	other
one	get	call	something
to	house	had	very
and	my	mother	around
do	the	see	fly
like	but	after	jump
play	go	came	over
too	I	he	stop
are	no	now	want
down	then	she	as
here	where	tree	from
little	can	all	let
put	good	could	ran
two	in	help	take
away	not	old	was
eat	this	so	back
him	who	up	funny
look	come	am	man
run	has	day	red
water	it	how	that

be	of	on	way
for	three	some	blue
his	will	us	give
may	ride	them	went
by	green	me	sat
there	when	say	they
would	yes	again	boy
fun	long	or	soon
well	any	brown	girl
Mr.	out	stand	were
ask	buy	got	Mrs.
please	tell	white	at
children	high	more	party
then	why	ate	cold
happy	morning	pretty	thank
with	ball	color	if
much	pull	their	work
been	cry	into	must
rabbit	these	yellow	before
dog	just	name	read
think	began	door	laugh
never	shall	thought	better
far	light	new	side
took	black	fast	night
sleep	under	father	walk

five	four	always	does
going	live	pick	sure
another	each	grow	made
place	ten	because	end
hand	many	right	thing
best	enough	hard	men
round	those	book	even
head	near	say	together
both	every	hold	next
school	told	box	eye
home	once	should	until
bring	fall	hot	only
show	wait	while	use
full	most	carry	last
such	first	still	wash
hurt	open	sit	warm
clean	found	keep	our
six	which	cut	friend
kind	own	start	gave
left	year	dear	seem
today	done	seven	try
drink	sing	turn	off
small	wish	people	write
present	also	don't	draw
eight	goes	its	king
leave	myself	upon	grand

APPENDIX C

LETTER CHART

E X P C O F A G B L

H R A V T K M L P Z

C L K M E B P D G U

T Z B S P C E R O K

D E M O X N K A S T

V O F T S A B M X C

P K W R V E D S A N

N A H F D O G P U S

F B T X A P R X M O

O Y E B R M C F T H

APPENDIX D

ALPHABET LETTERS

A B C D E F

G H I J K L

M N O P Q R

S T U V W X

Y Z a b c d

e f g h i j

k l m n o p

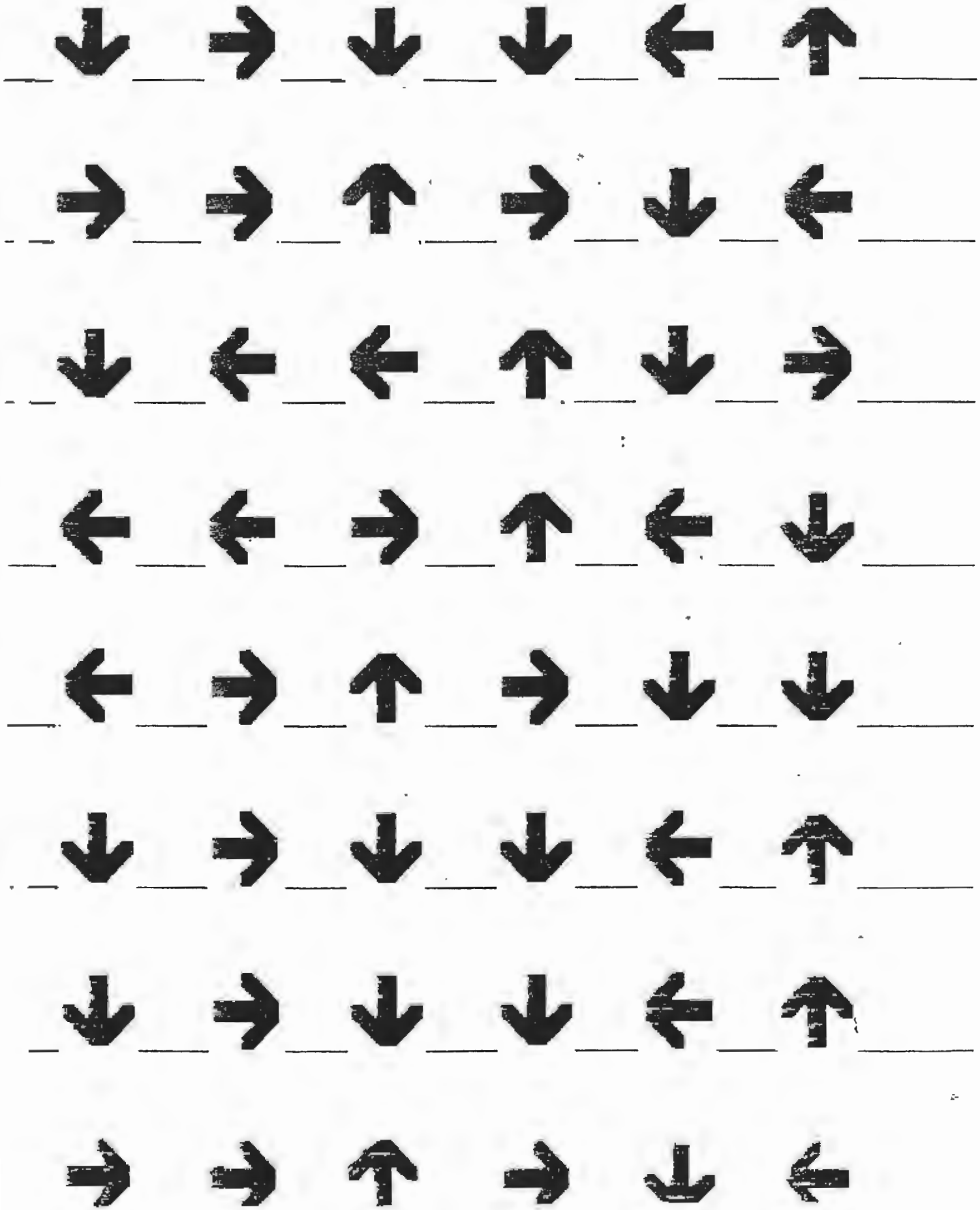
q r s t u v

w x y z

APPENDIX E

DIRECTIONAL ARROW CHART

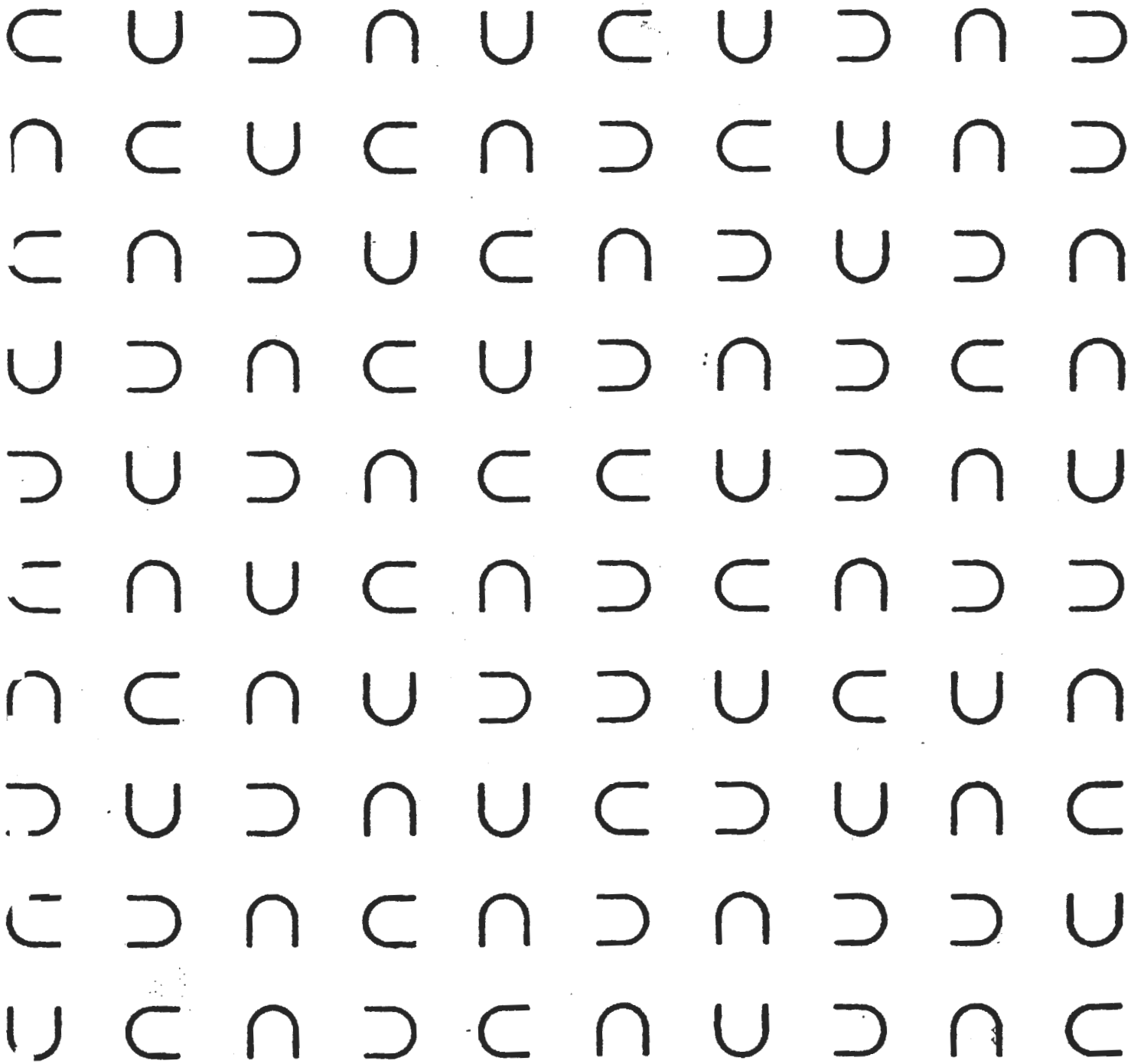
DIRECTIONAL ARROW CHART



APPENDIX F

DIRECTIONAL "C" CHART

DIRECTIONAL "C" CHART



APPENDIX G

GRID MAPS

GRID PATTERN

How to make a grid pattern: Use the grid template below to make your own grid map. Fill in a few squares of the grid ie. with a pattern, different colors, or perhaps pictures. The only guide line is to make sure that there is a clear pathway from the start to the finish areas.