

Light Box Activity Guide

Level 3



Light Box Activity Guide Level 3

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Introduction

The American Printing House for the Blind's Light Box was designed at the request of teachers familiar with the needs of developmentally young children with limited vision. A number of programs serving young low vision children have constructed devices similar to the Light Box and found them useful in teaching basic visual skills. The aim in developing the Light Box was to create a safe, portable version of these teacher-made devices equipped with a dimmer switch and prop to increase its versatility.

Thirteen items were developed for use with the Light Box and included in a Level 1 set of materials for children functioning from birth to 4 years of age. The written activities accompanying the Level 1 materials provide practice in the performance of basic visual skills (awareness, localization, tracking), eye-hand coordination tasks, and beginning matching and discrimination using concrete materials.

Two subsequent kits of materials have been developed at the request of teachers who evaluated the Level 1 materials. These evaluators felt the Light Box had value for a range of vision training activities based upon their observations of students' interest and performance. The Level 2 materials are designed to teach more complex visual-perceptual skills using concrete and pictured materials. They are intended for low vision and multihandicapped visually impaired students functioning from 3 to 5 years of age who have already mastered basic visual skills and have begun to match colors and basic shapes at the concrete level. Activities train students to match pictured and outline shapes as well as

large, colorful pictures of 15 familiar objects. Instruction is provided in sequencing, patternmaking, visual memory, pre-writing, and part-whole relationships using primarily concrete materials.

The Level 3 materials are intended for students who function from 4 to 6 years of age. They include colored, black line, and outline pictures of some 60 environmental objects, as well as letter and number cards. Most of the kit's graphics are designed for insertion into any of several types of game trays. Using a game format, students are encouraged to match, identify and sequence pictures and letters. Activities also provide practice in pre-writing, spatial relationships, visual memory, figure-ground discrimination, visual closure, and part-whole relationships using pictured materials.

The Level 3 materials were evaluated with students before final specifications were made. Thirty-one students from 4 to 6 years of age participated; all had residual vision, however, for purposes of the study, students had no additional handicapping conditions. Each child completed a pretest designed to assess visual functioning in the skills areas addressed by the Level 3 materials. A pre-pre-post research design was utilized in testing the materials. A repeated measures analysis of variance (MANOVA) indicated a significant level of improved visual functioning after using the Level 3 materials.

Nine teachers were involved in the analysis of the materials' usefulness, design, and apparent interest for students. After using the Level 3 materials with their students, they rated 87% of the kit's items/games 2.5 or better (3 = highly useful

in training residual vision; 2 = moderately useful; 1 = of little use). No items received a rating below 2. Teachers reported unanimous approval of the Level 3 written materials, including the sequencing of activities and skill areas covered. Few changes to the materials to improve durability and design were recommended; however, suggested changes were made. When asked to assess their students' responses to the Light Box materials, teachers reported that 87% of the students appeared to have less difficulty viewing pictures on the Light Box than similar pictures under normal illumination. Eighty-one percent of the students attended longer to Light Box tasks; several teachers reported students who demonstrated markedly increased attention spans. It was reported that 77% of the students asked, of their own initiative, to work with the Light Box materials. Several children chose the Light Box as a free-time activity. Ninety-four percent of the students could benefit from long-term use of the materials, teachers reported.

In general, teachers commented they appreciated the “careful sequencing” of the materials, were pleased with the “wide variety and flexibility” of the items and found most students motivated by the colorful graphics and game format used for many activities.

For additional information concerning the development and evaluation of the Level 3 Kit, please contact the Department of Educational Research of the American Printing House for the Blind.

Acknowledgments

A number of people participated in the design, evaluation, and production of the Light Box and Level 3 materials.

Gary Davis and Tom Poppe of the American Printing House for the Blind's Design and Development staff assisted in the design of the Level 3 game trays. Tom Poppe designed the Light Box itself. Cullen Slone, Manufacturing Specialist, designed the kit's packaging and contributed to the design of other kit materials. The Level 3 graphics were drawn by the project director.

Numerous ideas for kit items and activities were provided by consultant Beth Langley, teacher at Nina Harris Exceptional Center in Pinellas Park, Florida. Initial prototypes of some Level 3 materials were later reviewed by Beth Langley and Noreen Murphy, teachers at the Euclid Center in St. Petersburg, Florida.

A committee reviewed all proposed kit materials and a skill sequence before selecting items to be field evaluated.

The following participated in the meeting:

Pat Carpenter, DeKalb County Schools, Scottdale, Georgia

Nan Dempsey, New Jersey Commission for the Blind and Visually Impaired, Newark, New Jersey

Dr. Marvin Efron, Optometrist, West Columbia, South Carolina

Kay Ferrell, American Foundation for the Blind, New York, New York

Sheri Moore, American Printing House for the Blind,
Louisville, Kentucky

Two additional members of the Department of Educational Research at the American Printing House for the Blind were involved in the evaluation of the Level 3 materials. Sheri Moore devised the pretest used to collect data on the materials' effectiveness, chose the test design, and performed the analysis of student-use data. Bob Glass and the project's director collected all evaluative data.

The following teachers contributed their time and expertise to the evaluation:

Mary Jane Frankoviak, Indiana School for the Blind,
Indianapolis

Gail Hartigan, Prospect Elementary School, Clarendon Hills,
Illinois

Janet Huff, Prospect Elementary School, Clarendon Hills,
Illinois

Linda Kay Kirsch, Indiana School for the Blind, Indianapolis

Elizabeth Nolan O'Donnell, Saint Lucy Day School,
Philadelphia

Ellen Perry, Leawood Elementary, Columbus, Ohio

Michelle Peterson, Prospect Elementary, Clarendon Hills,
Illinois

Ela Shacklett, Children's Special Education Center for
Visually Impaired, Kansas City, Missouri

Martha Wyrsh, Children's Special Education Center for
Visually Impaired, Kansas City, Missouri

Finally, but perhaps most important, many people from various departments within the American Printing House for the Blind performed the tasks necessary to produce and package the Level 3 materials. They contributed their experience in silk-screening, thermoforming, die-cutting, typesetting, layout, printing, and other processes to make these materials available.

Kit Items

4" x 4" Colored Picture Cards

Ball – 2

Cow – 2

Car – 2

Dog – 2

Dress – 2

Kite – 2

Orange – 2

Spoon – 2

2" x 2" Colored Picture Cards

Airplane – 2

Apple – 6

Ball – 5

Banana – 5

Bird – 2

Boat – 2

Book – 6

Butterfly – 2

Cake – 6

Car – 5

Carrot – 6

Cat – 2

Chair – 4

Christmas Tree – 2

Clock – 2

Coins – 2

Comb – 6

Cow – 5

Crayon – 6

Cup – 6

Dog – 5

Doll – 2

Door – 2

Dress – 4

Drum – 4

Duck – 2

Eyeglasses – 2

Fish – 2

Fork – 6

Grapes – 5

Hairbrush – 6

Hat – 6

Horse – 5

Hot Dog – 6

House – 2

Ice Cream Cone – 2

Jacket – 4

Key – 2

Kite – 5

Lamp – 5

Mitten – 2

Orange – 5

2" x 2" Colored Picture Cards (continued)

Pants – 2
Pumpkin – 5
Rabbit – 2
Shirt – 4
Shoe – 6
Shorts – 2
Snake – 2
Sock – 5
Spoon – 6

Teddy Bear – 4
Telephone – 6
Television – 2
Toothbrush – 6
Tree – 2
Truck – 5
Wagon – 4
Window – 2

2" x 2" Black Line Cards

Airplane – 2
Ball – 2
Bicycle – 2
Boat – 2
Book – 5
Cake – 2
Car – 2
Carrot – 5
Cat – 2
Chair – 2
Christmas Tree – 5
Comb – 2
Cow – 2
Crayon – 5
Cup – 2
Dog – 2
Doll – 2
Duck – 2

Fish – 5
Horse – 2
Hot Dog – 2
Jacket – 5
Lamp – 5
Pumpkin – 2
Refrigerator – 2
Shirt – 5
Shoe – 2
Sock – 2
Teddy Bear – 2
Telephone – 2
Television – 5
Toothpaste Tube – 5
Tree – 2
Truck – 2
Window – 5

2" x 2" Outline Cards

Airplane – 6
Apple – 6
Ball – 6
Cake – 2
Car – 2
Cat – 2
Christmas Tree – 6
Crayon – 6
Dog – 2
Grapes – 6
Hairbrush – 6

Ice Cream Cone – 6
Kite – 6
Pumpkin – 2
Shoe – 2
Sock – 2
Spoon – 6
Teddy Bear – 6
Telephone – 2
Truck – 2
Tree – 2

2" x 2" Differing Detail Cards

Boat “A” – 2
Boat “B” – 2
Boat “C” – 2
Boat “D” – 2
Boat “E” – 2

Butterfly “A” – 2
Butterfly “B” – 2
Butterfly “C” – 2
Butterfly “D” – 2
Butterfly “E” – 2

Cake “A” – 2
Cake “B” – 2
Cake “C” – 2

Cake “D” – 2
Cake “E” – 2

Christmas Tree “A” – 2
Christmas Tree “B” – 2
Christmas Tree “C” – 2
Christmas Tree “D” – 2
Christmas Tree “E” – 2

Door “A” – 2
Door “B” – 2
Door “C” – 2
Door “D” – 2
Door “E” – 2

2" x 2" Differing Detail Cards (continued)

Dress "A" – 2

Dress "B" – 2

Dress "C" – 2

Dress "D" – 2

Dress "E" – 2

Pumpkin "A" – 2

Pumpkin "B" – 2

Pumpkin "C" – 2

Pumpkin "D" – 2

Pumpkin "E" – 2

House "A" – 2

House "B" – 2

House "C" – 2

House "D" – 2

House "E" – 2

4" x 4" Missing Detail Cards

Airplane – 1

Doll – 1

Duck – 1

Pumpkin – 1

Shirt – 1

2" x 2" Missing Detail Cards

Bird – 1

Car – 1

Cat – 1

Chair – 1

Clock – 1

Door – 1

Eyeglasses – 1

Fork – 1

Rabbit – 1

Shirt – 1

Teddy Bear – 1

Telephone – 1

2" x 2" Letter and Number Cards

A – 2	N – 2	a – 2	n – 2	“1” – 2
B – 2	O – 2	b – 2	o – 2	“2” – 2
C – 2	P – 2	c – 2	p – 2	“3” – 2
D – 2	Q – 2	d – 2	q – 2	“4” – 2
E – 2	R – 2	e – 2	r – 2	“5” – 2
F – 2	S – 2	f – 2	s – 2	“6” – 2
G – 2	T – 2	g – 2	t – 2	“7” – 2
H – 2	U – 2	h – 2	u – 2	“8” – 2
I – 2	V – 2	i – 2	v – 2	“9” – 2
J – 2	W – 2	j – 2	w – 2	“10” – 2
K – 2	X – 2	k – 2	x – 2	“11” – 2
L – 2	Y – 2	l – 2	y – 2	“12” – 2
M – 2	Z – 2	m – 2	z – 2	

Room Scene – 1

Farm Scene – 1

Store Scene – 1

“Three Bears” Story Overlays

Papa Bear – 1	Chairs – 3
Mama Bear – 1	Beds – 3
Baby Bear – 1	Porridge Bowls – 3
Goldilocks – 1	Table – 1

Logic Sequence Sets

Girls with an Ice Cream Cone – 4
Girl Buying a Soft Drink – 5
Boy Drinking Milk – 5
Boy Getting Dressed – 4
Woman Shopping for Groceries – 5

Figure-Ground Overlays

Cup (4" x 4") – 1
Ice Cream Cone (4" x 4") – 1
Pants (4" x 4") – 1
Spoon (4" x 4") – 1
Regularly Patterned Ground (8 1/2" x 11") – 1
Irregularly Patterned Ground (8 1/2" x 11") – 1

Visual Closure Cards (4" x 4")

Eyeglasses – 4
Shirt – 4
Shoe – 4
Telephone – 4

Half-to-Whole Puzzles (3" x 6")

Actress – 1	Girl – 1
Boy – 1	Scuba Diver – 1
Construction Worker – 1	Tennis Player – 1
Doctor – 1	
Fireman – 1	

Four-Piece Puzzles (4" x 4")

Banana – 1

Christmas Tree – 1

Clown – 1

Dog – 1

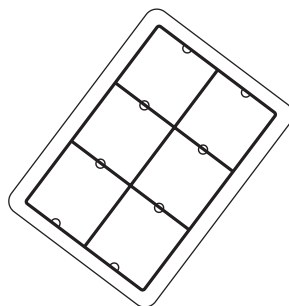
Doll – 1

House – 1

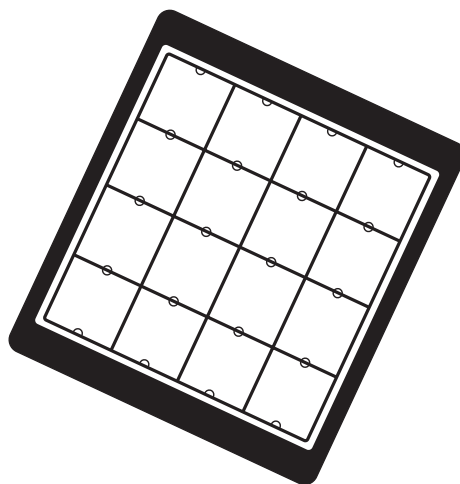
Spoon – 1

Teddy Bear – 1

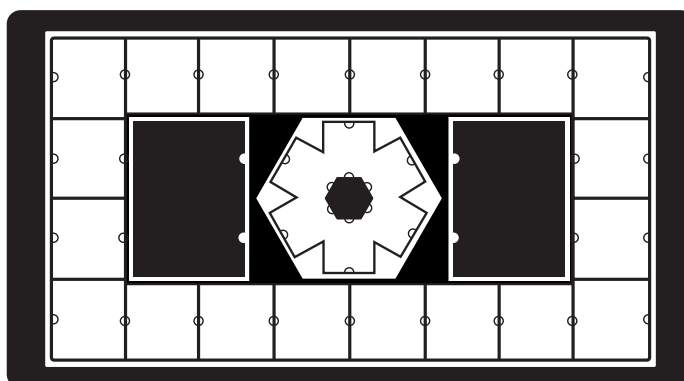
Lotto Trays – 4



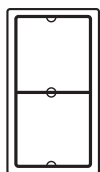
Bingo Trays – 2



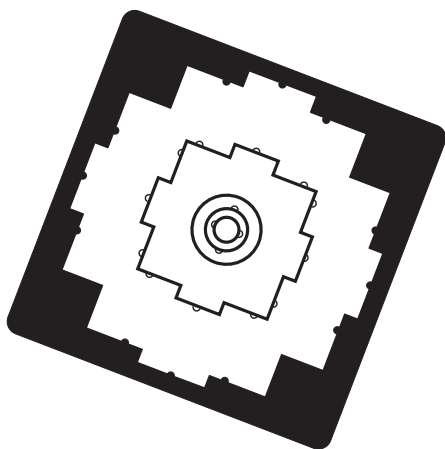
Game Trays – 2



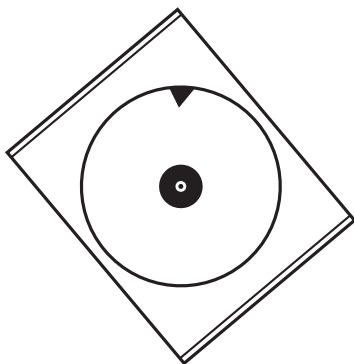
Domino Trays – 12



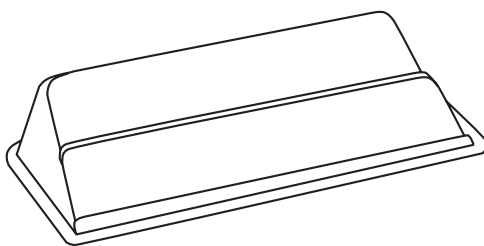
Clock Faces – 2



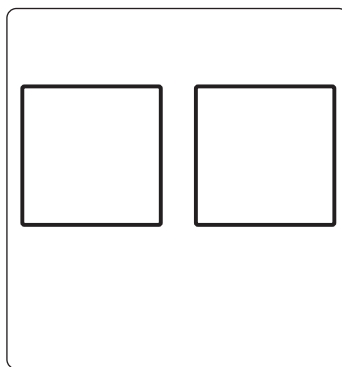
Spinner – 1



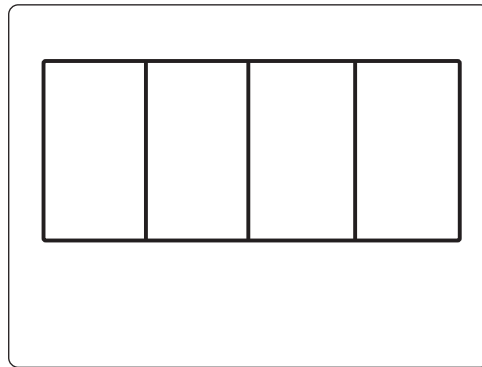
Card Holders – 4



Puzzle Jig for Four-Piece
Puzzles – 1



Puzzle Jig for Half-to-Whole
Puzzles— 1



Game Tokens

Yellow – 1

Green – 1

Red – 1

Blue – 1



Card Covers – 16



Rigid Vinyl Sheets –2

Flexible Vinyl Sheet – 1

Black-Out Background – 1

2" x 2" Blanks – 50

Safety

1. No child should use the Light Box unless he is directly supervised by a teacher or other adult familiar with the following safety instructions and Guidelines and Suggestions section of the Activity Guide.
2. Check the Light Box before each use for any damage to the unit, such as exposed electrical components, frayed cord, or any other potential hazard.
3. The Light Box will not operate if it is cold (below 50°F). Allow time for the unit to reach room temperature if it has been stored several hours at 50°F or below.
4. Operate only on 120 V AC, 60 cycle electrical outlets.
5. The consumer should not defeat the three-prong, grounded electrical cord.
6. Do not operate without a bulb in the socket.
7. Check to see that the plexiglass work surface is securely in place whenever the Light Box is in use. Do not remove the work surface unless the unit is disconnected.
8. Do not cover or obstruct the Light Box's vents, or permit the child to stick fingers or objects of any kind in them. (See diagram, page 24.)
9. Do not allow the child to play with the electrical cord, plug, or hinged prop.

10. Do not permit the child to drop, hit, stand, or sit on the Light Box or engage in any other activity which might damage the unit or expose electrical components.
11. Keep the Light Box away from liquid or moisture. When using acetate sheets for marking on, withdraw the sheet from the Light Box to clean. If it is necessary to clean the Light Box, disconnect it and wipe with a damp, not wet, cloth.
12. Do not operate the Light Box continuously for more than 8 hours. This will prevent excessive heat buildup within the unit.
13. The Light Box will get moderately warm during normal operation. However, if it becomes quite hot to the touch, disconnect the unit. Before using the Light Box again, have it checked by technical personnel.

Note to the Consumer:

The Light Box is  approved.

Guidelines and Suggestions

In November 2002, government regulations concerning electronic components forced a change in the ballast/dimmer system used in the APH Light Box. Please be advised that the new system will produce a single flash of light when the unit is switched on. To avoid startling the student or exposing a light-sensitive student, we suggest covering the Light Box before switching it on or turning the unit on before positioning the student nearby.

1. When using the Light Box, place it in a darkened corner of the room, positioned so that other children will not come in contact with it or its electrical cord.
2. Examine the Light Box for flickering to guard against seizing in a seizure-prone child. The Light Box may flicker on low intensities, particularly when new. This should decrease after the first few weeks of use. If feasible, leave the Light Box on for several hours each day the first week you use it to help “age” the lamp/dimmer system.
3. If a child is seizure-prone, be cautious about presenting items or displays on the Light Box which move in a rhythmic, patterned manner.
4. If a child is sensitive or averse to light, it may be helpful to introduce the Light Box with overhead lights on. Set the dimmer at a medium intensity, and/or decrease the size of the illuminated area by using one of the “blackout”

backgrounds. Placing one of the colored acetate sheets or a pattern on the Light Box may also reduce the intensity of the light. Experiment to find the conditions which maximize the child's visual functioning.

5. For the child with sufficient vision who is reinforced by light or the novelty of the Light Box, try working with overhead illumination and set the Light Box at a medium or low intensity. As the child performs an activity on the Light Box, reinforce his appropriate responses by turning up the intensity of the Light Box for a few seconds; then return the intensity to a lower setting to be ready to reward the next correct response.
6. Use the Light Box in a variety of positions (horizontal, vertical, angled) and place the child in a comfortable posture (sitting at a table or on the floor, lying on her side, resting over a wedge or bolster). Check with the child's physical therapist to find which positions are best for her. Note which postures enhance her visual functioning.
7. Present the Light Box at varying distances and areas in relation to the child's body and watch him to see whether he demonstrates a preference.
8. When presenting items on the Light Box, put them in different places on the work surface. Note whether the child responds consistently and accurately to the items regardless of their location, or, instead, shows signs of a field defect. For example, if the child tilts her head to one

side, appears to be using only one eye, or reaches for objects on one side only, there may be a field loss or the child may have difficulty crossing the midline. This will affect the manner in which you present activities.

9. Use colored acetate sheets and objects and observe whether the child prefers one color over another.
10. If the child has difficulty manipulating items on the Light Box because of their tendency to slip, use the soft vinyl sheet included with the kit, or use masking tape to attach a large square of clear contact paper, with its adhesive side up, to the Light Box surface. At first, the contact paper may be too sticky, but with a little use it will provide a nonslip surface.
11. Use words like “look,” “see,” and “find” when presenting items on the Light Box work surface. Encourage the child and describe for him what he is seeing – its shape, size, position, and color.
12. Show enthusiasm for each activity you perform with the child, and use strategies that are particularly motivating to her. Show the child a new activity, then ask her to perform it. Provide verbal and physical prompts when necessary.
13. Praise the child’s appropriate responses. It is important to immediately reinforce correct responses with things the child finds motivating — a hug, verbal praise, applause, etc.

14. If the child engages in a disruptive behavior while working with the Light Box, try dimming or turning the Light Box off as a means of discouraging off-task behavior.
15. If the child engages in self-stimulation activities when using the Light Box, such as light gazing or flicking, turn the Light Box off for several seconds. When the child has stopped self-stimulating, turn the Light Box back on and resume the activity. If he begins to self-stimulate again, repeat the procedure. If self-stimulation continues after several trials, end the session; note the stimulus conditions which cause the child to self-stimulate. At the next session, avoid these stimuli as much as possible. Try reducing the intensity of the Light Box and/or the amount of illuminated surface area. Turn on the room lights or use colored acetate sheets as backgrounds for the activities. Continue to turn the Light Box off when the child self-stimulates, reintroducing it when he stops. If the child continues to self-stimulate without improvement after several sessions of following this procedure, discontinue use of the Light Box for several days. When you reintroduce it, you may attempt to eliminate self-stimulation in some other way. For example, try rewarding the child after periods of time in which he does not self-stimulate, gradually increasing the length of time you require him not to self-stimulate. Work with the child using other vision stimulation and training materials; it may be that the Light Box is not an appropriate tool for him at this point. Brightly colored or reflective objects,

fluorescent materials, a penlight with color filters, and other items may elicit more appropriate visual responses from some children.

16. As the child develops new skills, continue to practice and build upon skills learned earlier.
17. To transfer a skill learned on the Light Box to a normally lit environment, increase room illumination as you gradually decrease the intensity of the Light Box. As you decrease Light Box intensity, some of the plexiglass materials will begin to appear dark and without color. Exchange them for other highly contrasting brightly colored toys.
18. Light Box activities should be used as a part of a total program of visual development. (See Suggested Readings.) The written activities accompanying the Light Box are not intended to provide a comprehensive program of vision stimulation and training activities.

The child with cortical visual impairment:

Considerations for vision stimulation and training

The child diagnosed with cortical visual impairment may not respond to the activities suggested for the Light Box in the same manner as a child whose vision loss is due to ocular abnormalities. The child whose vision loss is due to damage to the visual cortex and/or posterior visual pathways is said to have cortical visual impairment (CVI) (Groenveld, Jan & Leader, 1990). Other terms used to describe this type of visual loss include cerebral blindness, occipital blindness, visual agnosia, visual neglect, universal neglect and absolute scotonia (Morse, 1990). Damage may be caused by cerebral hypoxia; other causes include cytoplasmosis, toxoplasmosis, meningitis, trauma, and conditions causing cerebral degeneration (Merrill & Kewman, 1986).

The agent causing CVI may cause additional differences in the functioning of the child's brain and nervous system. It has been observed that many children with CVI are easily over stimulated, a difficulty which may be associated with an inability of the nervous system to selectively attend to important stimuli and screen out irrelevant stimuli in the environment. The child is flooded with many types of stimuli without a sufficient means to sort out and disregard the excess. Overstimulation, it has been theorized, may trigger the child's withdrawal, which serves as a protective response, shielding him from further overstimulation and the resulting stress (Groenveld, Jan & Leader, 1990; Morse, 1990). For this reason, *intense visual displays*, or other *intense stimuli*, should be avoided, as a child with CVI may

experience discomfort and withdraw, even if he initially shows signs of visual attention.

The literature suggest the following considerations may apply in performing vision training and stimulation with a child who has CVI.

- *Intense visual displays and overstimulation of any kind should be avoided*
- *Be very cautious about presenting any visual display with movements, shifting patterns, or flickering light. These may trigger a seizure in some children; consult the child's physician before introducing these* (Groenveld, Jan & Leader, 1990).
- The child's cues should be carefully attended to, noting when he is ready for vision stimulation, and stopping when he shows signs of overstimulation or tiredness (Morse, 1990).
- Observation may give you some awareness of the length of time it takes for a particular child to process sensory information; use this awareness to time your presentation of materials and assist the child in organizing his responses (Morse, 1990).
- Surrounding distractions should be reduced (Morse, 1990). (The Light Box itself may be of some help in this regard since it is most often used in a darkened environment, reducing visual input from the rest of the environment.)

- Position child comfortably and securely so he will not need to divert energy to maintain his posture; this may be critical to his visual performance losses (Groenveld, Jan & Leader, 1990).
- Take care to introduce novel items gradually (Morse, 1990). Ritualize the manner in which tasks are presented, using language to cue the child, and clearly marking the beginning and end of tasks. This may lessen the chances of overstimulating him (Groenveld, Jan & Leader, 1990).
- Visual displays should be simple in form and items should be presented separately or with adequate space between them, since the child with CVI seems to have special difficulty discriminating between foreground and background information (Groenveld, Jan & Leader, 1990).
- Some children with CVI are sensitive to bright light; others require more light (Groenveld, Jan & Leader, 1990). The Light Box should be introduced at low illumination until you are able to determine the level that is comfortable for the child. It may be that the Light Box is not an appropriate tool for some children.
- Observe the child for field losses which may be associated with CVI; modify his posture and your presentation of visual displays and tasks to accommodate such losses (Groenveld, Jan & Leader, 1990).

- Color may help the child with CVI perceive forms. Color perception is usually normal in a child with CVI; however, he may respond better to bright colors than to pastels, and yellows and reds may be easiest to see (Merrill & Kewman, 1986; Powell, 1996).
- It has been suggested that more severely affected children may relate better to common objects than to toys (Groenveld, Jan & Leader, 1990). Common objects, both opaque and colored transparent ones, may be used on the Light Box to test this preference.

References

Groenveld, M., Jan, J.F. & Leader (1990) Observations of the habilitation of children with cortical visual impairment. *Journal of Visual Impairment & Blindness*. 84, 11-15.

Merrill, M. & Kewman, D. (1986). Training of color and form identification in cortical blindness: A case study. *Archives of Physical Medicine and Rehabilitation*. 67, 479-483.

Morse, M.T. (1992) Augmenting assessment procedures for children with severe multiple handicaps and sensory impairments. *Journal of Visual Impairment & Blindness*. 86, 73-77.

Morse, M.T. (1990) Cortical visual impairment in young children with multiple disabilities. *Journal of Visual Impairment & Blindness*. 84, 200-203.

Powell, S.A. (1996). Neural-based visual stimulation with infants with cortical impairment. *Journal of Visual Impairment & Blindness*. 90, 445-446.

Maintenance

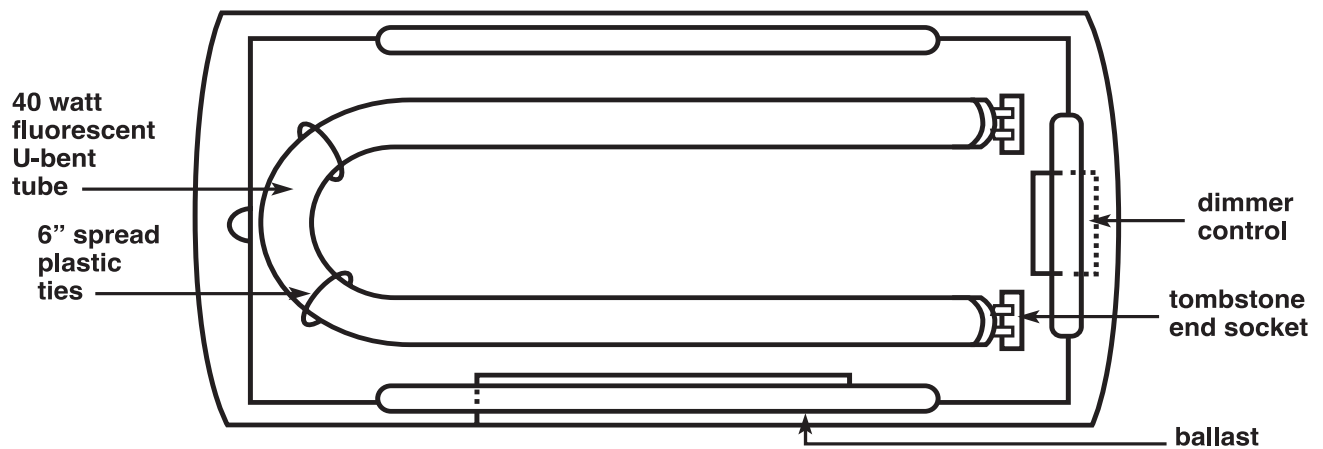
Replacement parts for the Light Box are available at the American Printing House for the Blind, where it should be returned if it is damaged or develops a malfunction. Repairs to the Light Box must be made in accordance with standards set forth by Underwriters Laboratories. Technicians at the American Printing House for the Blind are trained to perform such repairs.

A worn-out bulb, however, may be replaced by the user. Replacement bulbs can be purchased from electrical supply companies for under \$20.00. General Electric manufactures the 40 watt fluorescent U-bent tube used in the Light Box (mod-u-line, F40 SP30 U 6). Phillips manufactures a similar bulb. The average life of this particular fluorescent tube is 12,000 hours, however, turning the Light Box off and on reduces its life expectancy. In addition, the bulb gradually loses full brightness over a period of time. Watch for this gradual dimming and replace the bulb early.

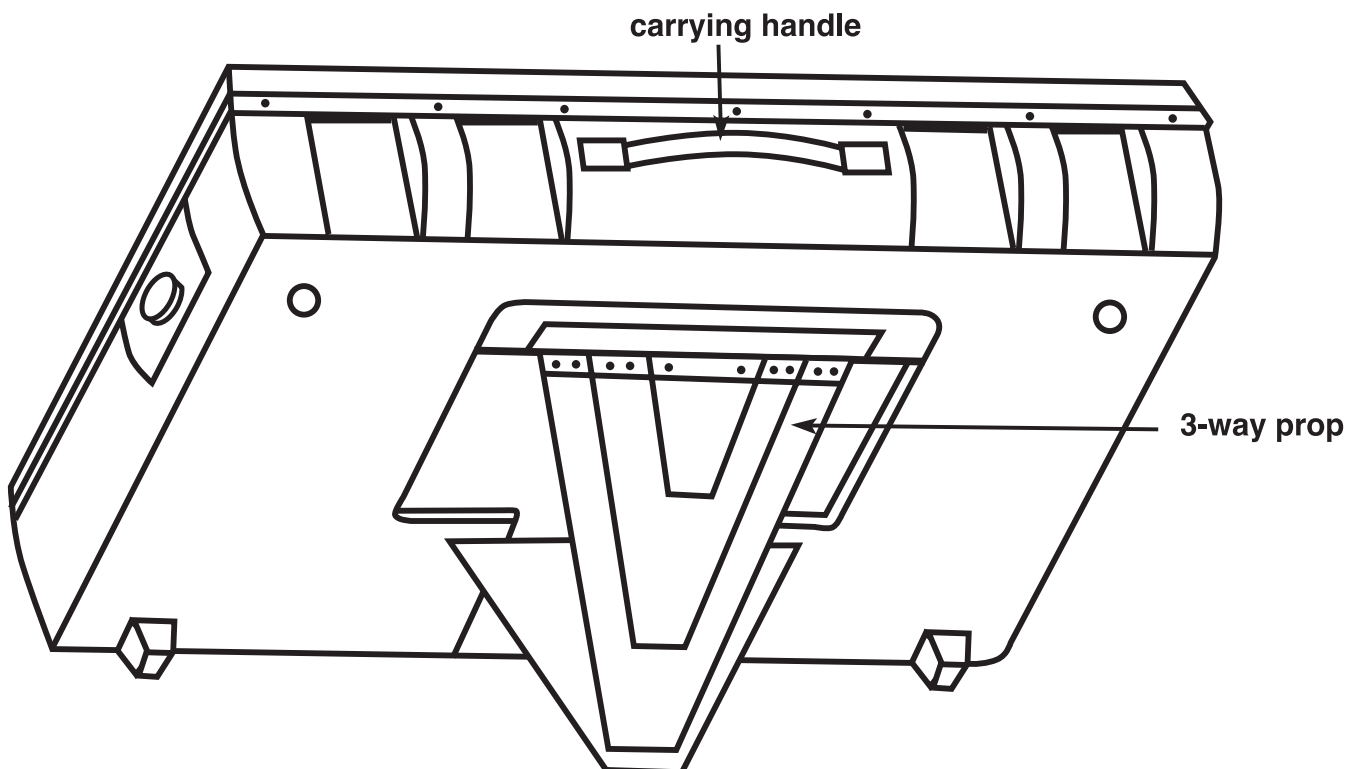
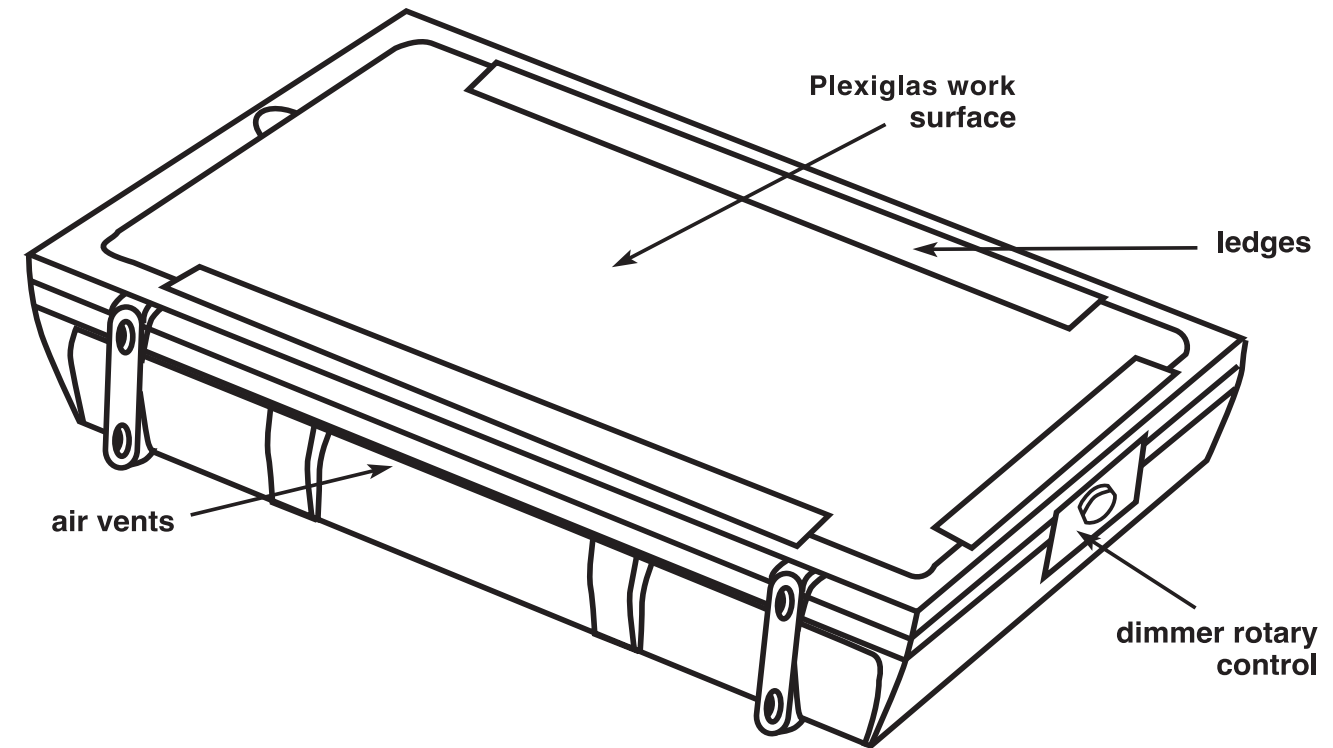
To replace the bulb, UNPLUG THE LIGHT BOX before removing the Plexiglas work surface. Remove the Plexiglas by pushing your finger or a penknife under the Plexiglas at the small molded depression on the left edge of the Light Box. Slide it off the Light Box. Four plastic ties hold the bulb in place. They can be released and should not be cut. Release each tie by pressing down on the molded tab. Pull up on the bulb; the pins connecting the tube to the sockets should release easily. Remove the old bulb and position the new bulb with the pins over the two slots in the sockets. Press the pins down into the slots as the rest of the bulb is

lowered in place. The pins will make a snapping sound as they lock in place. It is important to secure the new bulb, reusing all four plastic ties. Extra ties may be purchased from an electrical supply company for a few cents apiece.

APH Light Box



APH Light Box



Additional Materials

A number of readily available commercial items can be used on the Light Box for activities involving shape, color, and size discrimination, drawing, and prewriting tasks. Cut and paste or draw colored shapes, patterns, and pictures on a variety of background media. Create cards or board games to teach matching. Select and print the recommended Activity Sheets found on the CD-ROM in the back of this manual, or provide the child with the materials to create original artwork — drawings, or collages.

Acetate Sheets (clear and transparent colored sheets in a variety of sizes; available from art and school supply stores, and Dick Blick catalog).

Transparency Film (available in 8 1/2" x 11" from any office supply store) may be used in some printers or copiers in place of paper to produce transparent copies of the Activity Sheets. (Note: Refer to the owner's manual for your printer or copier to purchase film that is safe to use in your specific equipment.)

Art Film (brightly colored transparent film that has an adhesive backing, sold in sheets and as rolls of tape of various widths; may be cut to any shape; available from art supply stores, Dick Blick catalog).

"MonoKote" (brightly colored transparent film adheres to any surface when heated with iron; sold in rolls, may be cut to any shape; available from hobby stores which sell model-building materials).

Onionskin or Tracing Paper

Colored Cellophane

Colored Tissue Paper

Colored and Patterned Wrapping Paper

Colored and Patterned Fabric

Colored Projection Markers (water soluble or permanent ink markers; adheres to acetate; available from school supply stores and Dick Blick catalog)

Colored Grease Pencils

“Cel Vinyl” (acrylic paint; highly opaque black paint adheres to acetate; apply with a brush; available from art supply stores and Dick Blick catalog)

Fingerpaints (use in clear or translucent white plastic tray or Tupperware container)

Crayons (use with onionskin or tracing paper)

Black Electrical Tape

Colored Ribbon

Colored Yarn

Rickrack

Doilies

Colored Plastic Buttons

Plexiglas® Sample Squares (available from companies that retail Plexiglas)

For drawing the child's attention to shape and for tracing around and copying shapes, these items may be incorporated into activities with the Light Box:

Coasters

Cookie Cutters

Jello Molds

Stencils

Wooden Blocks

Parquetry Pieces

Puzzle Pieces

A-Z and 1-10 Panels (available from Exceptional Teaching Aids catalog)

Shape puzzles of soft rubber made by Lauri Toys (available in toy stores)

Clay or Playdough®

Posterboard Shapes

Familiar objects with simple contours (a cookie, ball, bar of soap, shoe, or spoon)

Ink and Acetate (draw your own solid or outline shapes on acetate)

Other materials which may be used with the Light Box to develop a number of skills are:

Wikki Stix (colored wax wicking to be bent and pressed into a variety of shapes or construction; available from Exceptional Teaching Aids catalog)

Colored transparent plastic eating utensils, glasses, and plates

Colored plastic “stained glass” ornaments made from sample kit; available from hobby shops)

Brightly colored translucent or transparent plastic toys (Easter eggs, pop-beads, other inexpensive toys)

Balloons

Colored Pinwheels

Small Toy Cars

Halloween Masks

Plastic Halloween Pumpkins

Colored Plastic Clothespins

Costume Jewelry Beads (available from hobby shops)

Mosaic Tiles (bag of 150 1/2-inch transparent plastic squares in 16 colors; available from Dick Blick catalog)

Marbles

Colored Bath Oil Beads

Colored transparent “gummy” candies

Lifesavers and other colored transparent hard candies and suckers

Confetti made of colored acetate closed in a clear plastic bottle

The following items from the American Printing House for the Blind catalog may be used on the Light Box for discriminating and matching shapes, tracing, and introducing part-whole relationships:

Puzzle Foam Board Kit (contains three each of circles, squares, triangles, rectangles, and diamonds; some of the shapes are divided into two and three pieces, which must be assembled correctly to form the shape; catalog No. 1-03721-00)

Shape Board (board itself is not suited for use on Light Box, but shapes are useful; contains five shapes, including one large, one small and three medium-sized pieces: catalog No. 1-03710-00)

Additional Materials



Addresses:

American Printing House for the Blind
P.O. Box 6085
Louisville, KY 40206-0085
Phone: 800-223-1839
Fax: 502-899-2274
Website: www.aph.org

Dick Blick
P.O. Box 1267
Galesburg, IL 61401
Phone: 800-447-8192
Fax: 800-621-8293
Website: www.dickblick.com

Exceptional Teaching Aids, Inc.
20102 Woodbine Avenue
Castro Valley, CA 94546
Phone: 800-549-6999
Fax: 582-5911
Website: www.exceptionalteaching.com

Suggested Reading

- Alexander, P.K. (1990). The effects of brain damage on visual functioning in children, *Journal of Visual Impairment & Blindness*, 84, 372-376.
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Activity Section

Notes to the Teacher

The following activities have been grouped under the broad “skill areas” listed in the Activity Index on page 39. The activities are not developmentally sequenced; it is unlikely a student will master each skill area before moving to the next. Over the course of vision training, many skills are developed concurrently and learners will progress differently based upon their particular visual handicap, past experience, age, and motivation. In general, the activities presented in later skill areas are more difficult than activities presented in the earlier skill areas.

To obtain a rough profile of a student’s functioning, select an activity from the beginning, middle, and end of each skill area, making note of the child’s performance and the concepts and visual tasks which pose the greatest problems.

The nature of the student’s handicap is crucial in selecting and sequencing activities. For example, a student with a limited field yet fairly good acuity may find smaller objects and pictures easier to recognize than larger ones whose edges extend beyond his visual field. Damage to the macular region may make recognition of small objects and pictures impossible unless they are viewed using peripheral vision; inner detail of pictures will be lost. Eccentric viewing techniques may be taught to assist the student in using the area of most acute vision to examine all parts of a picture. The student with poor acuity may only perform visually when objects and pictures are large and boldly outlined; on the other hand, he may want to view materials close to his eyes,

and excessively large materials could be difficult to “take in” at very close range. These are only a few examples of the many ways in which the nature of the visual handicap will determine the ease or difficulty of a particular activity.

As you present activities, consider also the student’s age and level of motivation. The Light Box itself may be of assistance in motivating students. Ninety-two percent of the students with whom the Light Box and Level 2 materials were evaluated attended longer to tasks performed on the Light Box than to similar tasks performed without it. As stated in the Guidelines and Suggestions section, show enthusiasm for the activities, praise the child, and reinforce his efforts with something motivating. Making an activity more gamelike will encourage some students to work to their fullest potential.

A final important observation, the activities provided do not comprise a complete program of vision stimulation and training exercises. They may be considered as a basis for planning a larger program which relies upon the teacher’s creativity and utilizes other materials — such as Let's See, Penlight and Flashlight with colored Caps, Sensory Stimulation Kit-Visual Items, Program to Develop Efficiency in Visual Functioning (all available from the American Printing House for the Blind), and a variety of commercial materials appropriate for young low vision children.

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Level 3

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Goal: Matching and Sorting

Activity 1:

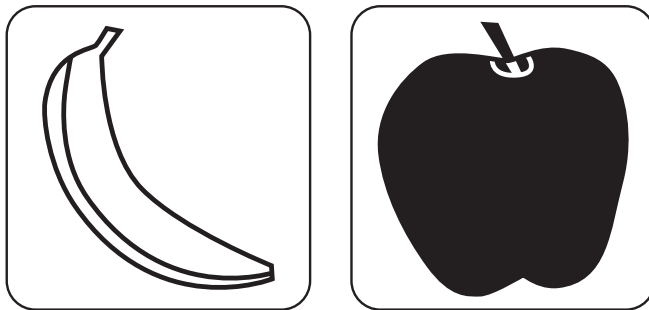
If you have access to Light Box Materials: Level 2, check to see whether the child can perform the matching and sorting activities prescribed in the accompanying Level 2 Activity Guide. Select a few activities in which he must sort colored pegs or cubes, parquetry pieces by shape, colored shape cards and outline cards by shape, and familiar object pictures. If he has difficulty with any of these activities, you will want to include practice with the Level 2 materials together with activities taken from the Level 3 guidebook. The Level 2 and Level 3 materials overlap in the skills they address.

If a child had difficulty matching and sorting materials provided in the Level 2 kit, this does not necessarily indicate he will not be able to perform some Level 3 tasks. For example, he may have difficulty matching geometric shapes which closely resemble one another (a diamond and a rhombus) but experience no difficulty matching some pictured objects in the Level 3 materials, especially those which have marked differences in geometric outline. You may use the Lotto, Bingo, Domino, and Game trays provided with Level 3 materials. Create your own 2" x 2" transparent "cards" showing solid or outline geometric shapes. Use acetate or the rigid vinyl 2" x 2" blanks included with the Level 3 kit. You may mark on the cards with colored markers, black opaque paint, or colored adhesive art films.

Goal: Matching and Sorting (continued)

(See “Additional Materials” section on page 25 of this manual for sources.) Please be creative in your use of both kits; it is certainly permissible to interchange the activities and materials included in each kit and to create adaptations of them as you tailor a vision training program to fit the unique needs of each individual.

Matching: Different Shape/Different Color



Activity 2: Large colored cards

Have the child match and sort the large 4" x 4" picture cards. Place the picture of the orange on the Light Box. Give the child pictures of the other orange, the dog, car, and dress. Have her select the proper match. Discuss features of each object—its general shape, colors, and inner detail. Let the child sort and match all of the colored 4" x 4" picture cards.

Activity 3: Colored picture cards

Perform Activity #1 using 2" x 2" colored picture cards. Discuss each picture's detail. Have the child identify the object, if possible. Some pictures are relatively easy to tell apart because they have distinctly different shapes and/or colors. For example:

carrot – pencil-like, orange

Apple – round, red

Grapes – diamond shaped, purple

Pants – V-shaped, green

Shoe – oblong, brown

Television – square, gray

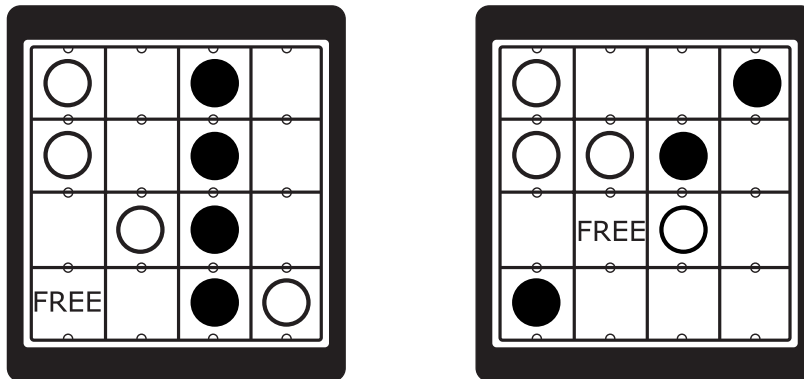
Activity 4: Colored picture cards/Lotto trays

Use the Lotto trays and 2" x 2" colored picture cards listed in Activity #2 or other distinctly different picture cards to play matching games. Insert six picture cards in the Lotto tray. Spread a duplicate of each of the cards on the Light Box and have the child match these to the cards in the tray. Play the game with one, two, or three children. Give each child a

Goal: Matching and Sorting (continued)

token (poker chip or counting cube) for each correct match he makes. After several games, help each child line up his tokens and count them or measure the height of each child's "stack." If incorrect matches are made, pull out the card's elements which may have confused him – were they a similar color, size, shape? Perhaps he focused on a small portion of the pictures and did not look at the overall configuration, or the reverse may have occurred. By sliding one card over another, correct matches can be verified and incorrect matches may be apparent.

Activity 5: Colored picture cards/Lotto trays



Play a Bingo game using distinctly different 2" x 2" colored picture cards, such as those suggested in Activity #3. Arrange them in the Bingo trays and shuffle and stack their remaining duplicates. You or the child may select a card from the stack. Show the child the card drawn from the stack. If she locates its match in the column you indicate, have her place a token over it. If possible, include two players. Players will need help at first to identify their "Bingo." You may add "free spaces" to the Bingo tray to make the game go more

Goal: Matching and Sorting (continued)

quickly. The children begin the game by locating and placing a token on each free space. “Bingo” is declared when a player forms an uninterrupted line of tokens — vertically, horizontally, or diagonally.

Activity 6: Colored picture cards/spinner

Set up the spinner with distinctly different 2" x 2" colored picture cards. Orient the cards so each appears right-side up to the child. Spread matching cards on the Light Box beside it. Have the child spin the spinner, then point to the card on the Light Box which matches the card to which the arrow is pointing.

Activity 7: Colored picture cards/ game tray/spinner

Set up a game tray using 2" x 2" colored picture cards which are distinctly different in appearance. For discriminating among four different picture cards, sufficient numbers of the following are provided; select one picture card (and its duplicates) from each of the following groups (e.g., spoon, hat, spinner, apple, crayon).

spoon	hot dog	apple	carrot
fork	hat	cup	crayon
toothbrush	shoe	book	comb
hairbrush	cake	telephone	

Goal: Matching and Sorting (continued)

For discriminating among five different picture cards, sufficient numbers of the following have been provided; select one picture card (and its duplicates) from each of five groups. At first, avoid using objects which are the same color.

spoon fork hairbrush toothbrush	hot dog hat shoe cake	apple cup book telephone
carrot crayon comb	orange pumpkin ball	dog cow horse
banana sock	car truck	grapes kite

For discriminating among six different picture cards, sufficient numbers of these cards have been provided; select one picture card (and its duplicates) from each of six groups. At first, avoid using objects which are the same color.

Goal: Matching and Sorting (continued)

spoon fork hairbrush toothbrush	hot dog hat shoe cake	apple cup book telephone
carrot crayon comb	orange pumpkin ball	dog cow horse
banana sock	car truck	grapes kite

and/or one or more from the following group:

teddy bear shirt wagon	chair drum dress	lamp
------------------------------	------------------------	------

Place one copy of each different picture card in the squares grouped in a hexagon at the center of the tray. The clear spinner fits over these squares. Place the remaining duplicate cards in the squares around the game tray. To play, the child spins and must move his token from the “start” position (normally the upper left-hand square) around the

Goal: Matching and Sorting (continued)

tray in a clockwise direction to the first card which matches the card he has just spun. (Show the child he must look under other players' tokens to make sure they are not obscuring the card he is seeking.) The first player to reach the “start” position again is the winner, or you may play to see who can go around the most times in a given amount of time. If necessary, help the child correct an incorrect match by pointing out differing features. You may want to remove the card from the game tray for a better comparison. If a child is not performing his best, you may discourage incorrect matches by having him miss a turn when he matches incorrectly. There are several ways to vary the game.

- Let the players collect tokens or Monopoly money each time they pass the “start” position or each time they make a correct match.
- Create a special card for the spinner which, if spun, gives the child a chance to take two turns in a row.



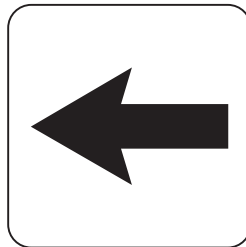
2

Goal: Matching and Sorting (continued)

- Create a special card for the spinner which, if spun, allows the child to draw a special prize or token from a prize bag.



- Make a spinner card which requires the child to move backward or forward one square or allows him to move another player back one square.



- Identify one of the picture cards under the spinner as the “booby prize” (e.g., the shoe); if the child spins the picture of the shoe, instead of moving forward, he must move backward to the nearest card showing a shoe.
- Play the game so a player is bumped backwards one square if another player lands on his square (normally more than one player can occupy a square).

Goal: Matching and Sorting (continued)

- Make a special spinner “wild card”; if the “wild card” is spun the child can select the type of picture card he would like to move his token to next (e.g., the next picture card showing a sock); encourage him to find the card which will allow him to move forward the greatest number of squares.



Activity 8: Colored picture cards/Domino trays

Use distinctly different 2" x 2" colored picture cards with the Domino trays. Sufficient numbers of the following are provided for discriminating among four different picture cards; select one picture card (and its duplicates) from each of the following groups (e.g., spoon, hat, apple, crayon).

spoon	hot dog	apple	carrot
fork	hat	cup	crayon
toothbrush	shoe	book	comb
hairbrush	cake	telephone	

Goal: Matching and Sorting (continued)

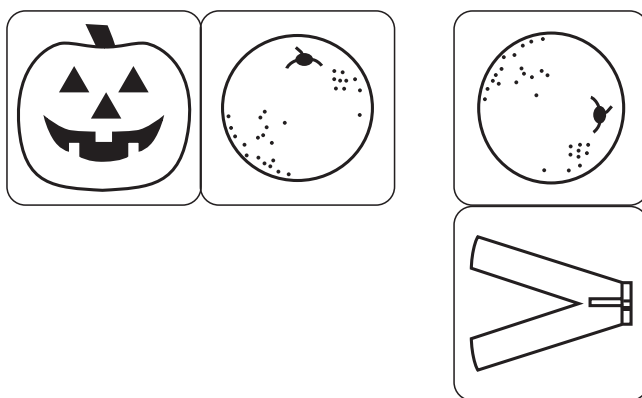
For discriminating among five different picture cards, sufficient numbers of the following are included. At first, avoid using items which are the same color. Select one picture card (and its duplicates) from each of five groups.

spoon fork hairbrush toothbrush	hot dog hat shoe cake	apple cup book telephone
carrot crayon comb	orange pumpkin ball	dog cow horse
banana sock	car truck	grapes kite

For discriminating among six different picture cards, sufficient numbers of the cards listed above have been provided; select one picture card (and its duplicates) from each of six groups. At first, avoid using objects which are the same color.

Goal: Matching and Sorting (continued)

Use the Domino trays like a Domino set, matching pictures by placing them adjacent to one another. The child may need to move around the Light Box to play the game since some pictures will be placed sideways. If possible, encourage her to match the pictures without moving, taking into account varying orientations.



Activity 9: Colored picture cards/clock face trays

Place distinctly different 2" x 2" colored picture cards, such as those suggested in Activity #3, around the two clock faces. Use the same picture cards (and duplicates) on each but arrange them differently. Point the clock hand to a card on your clock face. Have the child find the matching card on his clock face and point the hand to it.

Activity 10: Colored picture cards/card holders

A variety of card games can be played with the 2" x 2" colored picture cards. To play a version of "Slapjack," select a particular picture card which will be the "Jack" — a spoon, for example. Create a deck using several of each of the colored picture cards showing spoons, shoes, cars, oranges, holders, shirts, crayons, and socks, or other picture cards which are distinctly different from one another. Place a card which shows the "Jack" you have selected on the Light Box. Shuffle the deck and place a card from the deck on the Light Box. If it matches the "Jack," the first child to slap it with her hand keeps the card in addition to any other cards which have accumulated since the last "Jack" was turned over. If the card turned over does not match the "Jack," it is placed in a pile to one side. The next player to "slap the Jack" wins this pile.

Activity 11: Colored picture cards/card holders

To play a version of the card game "Gin Rummy" with distinctly different 2" x 2" colored cards, play any of the following games using the picture cards and numbers indicated for each game.

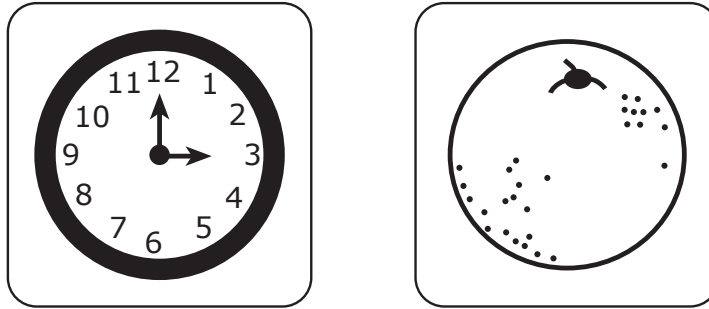
(see chart on next page)

Goal: Matching and Sorting (continued)

<u>Game A</u>	<u>Game B</u>	<u>Game C</u>	<u>Game D</u>
dog (4)	teddy bear (4)	cow (4)	cake (4)
apple (4)	cup (4)	shoe (4)	horse (4)
carrot (4)	pumpkin (4)	shirt (4)	telephone (4)
car (4)	bead (4)	truck (4)	bull (4)
kite (4)	dress (4)	grapes (4)	comb (4)
drum (4)	crayon (4)	banana (4)	lamp (4)
hat (4)	sock (4)	orange (4)	toothbrush (4)
fork (4)	spoon (4)	wagon (4)	chair (4)

Shuffle the cards and deal six to each player. Use the card holders provided with the kit so players cannot read opponents' cards. Place the deck in the center of the Light Box and turn over the top card. The first player must decide whether to take the exposed card or draw a new one from the deck. If he decides to keep either card, he must discard one from his own hand. If he does not keep either card, the next player must choose between the upturned card or a card from the top of the deck. The game continues until one player has formed two sets of three matching cards (e.g., three kites and three hats).

Matching: Similar shape/different color



Activity 12: Colored picture cards/Lotto trays

When the child is capable of matching picture cards whose shape and color differ, play various Lotto games (see Activity #4 for Lotto instructions) using picture cards which resemble one another in shape though not in color. Select four, five, or six different picture cards from the same “shape group,” or several picture cards from two “shape groups.” Avoid using objects of the same color. For example, set up a game using two books, two doors, two drums, two windows, and two refrigerators. Or another game might include two apples, two oranges, two clocks, two spoons, and two carrots.

Square/ Rectangular

telephone (red)

cup (red)

book (red)

door (brown)

television (gray)

drum (yellow)

house (red/yellow)

window (brown/pink)

refrigerator (white)

truck (blue)

Goal: Matching and Sorting (continued)

Round

hat (green/white)

ball (orange)

apple (red)

pumpkin (orange)

orange (orange)

Oblong

hat (brown/red)

rabbit (white)

shoe (brown/red)

car (blue)

hot dog
(brown/red)

fish (grey)

mitten (blue)

Cylindrical

spoon (yellow)

carrot (orange)

fork (yellow)

crayon (orange)

toothbrush
(yellow)

comb (orange)

Goal: Matching and Sorting (continued)

Diamond/V Shape

Christmas tree
(green/brown)

ice cream cone
(brown/yellow)

kite (purple)

sail boat (purple/white)

grapes (purple)

lamp (purple/white)

pants (green)

Other picture cards which resemble one another in shape, though not in color are:

shirt (red)

duck (white)

jacket (blue)

bird (red/brown)

Activity 13: Colored picture cards/ game tray/spinner

Use the colored picture cards suggested in this activity with the game tray and spinner. Select picture cards which show objects of the same overall shape but differing colors. In most cases you will need to use picture cards from several different “shape groups” to insure that those showing objects of the same shape are not also of the same color. Do select at least two different picture cards from each “shape group” you utilize. For example, a game using five different picture cards could include the cup (square, red); cake

Goal: Matching and Sorting (continued)

(square, brown); truck (square, blue); crayon (cylindrical, orange); spoon (cylindrical, yellow). For discriminating among five different picture cards, sufficient numbers of the following are provided in the kit. Choose five picture cards (and their duplicates) from the same “shape group,” or several picture cards from each of two “shape groups.”

Square/Rectangular

telephone (red)

cup (red)

book (red)

cake (brown/red)

truck (blue)

Round

apple (red)

orange (orange)

ball (orange)

pumpkin (orange)

Oblong

hot dog (brown/red)

hat (brown/red)

shoe (brown/red)

car (blue)

Cylindrical

spoon (yellow)

fork (yellow)

hairbrush (yellow)

carrot (orange)

crayon (orange)

comb (orange)

Goal: Matching and Sorting (continued)

For discriminating among six different picture cards, sufficient numbers of the following are provided if two spaces are designated as “free spaces” or used for special cards. Select at least two picture cards (and their duplicates) from any given shape group to provide six different picture cards. As much as possible, select objects of different colors.

Square/Rectangular

shirt (red)

telephone (red)

cup (red)

book (red)

cake (brown/red)

truck (blue)

drum (yellow)

dress (purple)

Oblong

hot dog (brown/red)

hat (brown/red)

shoe (brown/red)

car (blue)

Round

apple (red)

orange (orange)

ball (orange)

pumpkin (orange)

Cylindrical

spoon (yellow)

fork (yellow)

hairbrush (yellow)

carrot (orange)

crayon (orange)

comb (orange)

Goal: Matching and Sorting (continued)

Activity 14: Colored picture cards/Bingo trays

Play Bingo using the 2" x 2" colored picture cards. Continue to use picture cards which show objects of roughly the same shape but different colors. Select at least two picture cards (and their duplicates) from any given “shape group” listed in Activities #12 and #13. As much as possible, select objects of different colors. The game will progress more quickly if you use picture cards which have four or five duplicates. Arrange them in one or both Bingo trays, depending upon the number of players. Add “free spaces” to the trays if you wish. Keep aside one copy of each picture card used in the game to form a deck. Before each turn, shuffle the deck, select a card from it and show it to the child. If she locates a matching card in the column you indicate, she places a token over it. “Bingo” is declared when a player has an uninterrupted line of tokens — vertically, horizontally, or diagonally.

Activity 15: Colored picture cards/Domino trays

Use 2" x 2" colored picture cards showing objects of the same overall shape but different colors with the Domino trays. Select at least two picture cards (and their duplicates) from any given shape group listed for this activity. In most cases, you will need to choose picture cards from several “shape groups” to avoid color similarities. Sufficient numbers of the following are provided for discriminating among five different picture cards.

Goal: Matching and Sorting (continued)

Square/ Rectangular

telephone (red)

cup (red)

book (red)

cake (brown/red)

truck (blue)

Round

apple (red)

orange (orange)

ball (orange)

pumpkin (orange)

Oblong

hot dog (brown/red)

hat (brown/red)

shoe (brown/red)

car (blue)

Cylindrical

spoon (yellow)

fork (yellow)

hairbrush (yellow)

carrot (orange)

crayon (orange)

comb (orange)

Goal: Matching and Sorting (continued)

Sufficient numbers of the following are provided for discriminating, among six different picture cards.

Square/ Rectangular

shirt (red)

telephone (red)

cup (red)

book (red)

cake (brown/red)

truck (blue)

drum (yellow)

dress (purple)

Oblong

hot dog (brown/red)

hat (brown/red)

shoe (brown/red)

car (blue)

Round

apple (red)

orange (orange)

ball (orange)

pumpkin (orange)

Cylindrical

spoon (yellow)

fork (yellow)

hairbrush (yellow)

carrot (orange)

crayon (orange)

comb (orange)

Activity 16: Colored picture cards

To play a version of “Slapjack” with the colored picture cards, select a particular picture card which will be the “Jack.”

Create a deck using cards which resemble one another in shape, though not in color. Select five or more different picture cards (e.g., book, cake, truck, drum, dress, pumpkin) and use several duplicates of each including the “Jack.”

Place the card which shows the “Jack” you have selected on the Light Box. Shuffle the deck and place a card from it on the Light Box. If the card matches the “Jack,” the first child to slap it with his hand keeps the card in addition to any other cards which have accumulated since the last “Jack” was turned over. If the card turned over does not match the “Jack,” it is placed in a pile to one side. The next player to “slap the Jack” wins this pile.

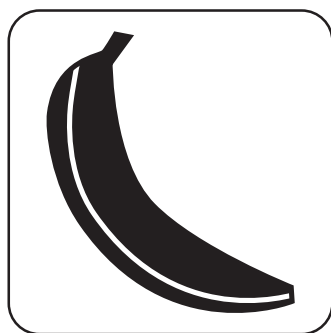
Activity 17: Colored picture cards/card holders

To play a version of “Gin Rummy” with 2" x 2" colored cards of similar shape but different colors, use the picture cards suggested in Activity #15 (suggested cards for Domino trays using six picture cards). Choose six to eight different picture cards whose shapes are similar but which differ in color; use four duplicates of each. Shuffle the cards and deal six to each player. Use the card holders provided with the kit so players cannot view opponents' cards. Place the deck in the center of the Light Box and turn over the top card. The first player must decide whether to take the exposed card or draw a new card from the deck. If she decides to keep either

Goal: Matching and Sorting (continued)

card, she must discard one from her own hand. If she does not keep either card, the next player must choose between the upturned card or a card from the top of the deck. The game continues until one player has formed two sets of three matching cards (e.g., three shirts and three drums).

Matching: Different shape/same color



Activity 18: Colored picture cards/Lotto or Bingo trays

When the child successfully matches colored picture cards showing objects of the same shape but different colors, provide practice in matching cards showing objects of the same color but different shapes. Play Lotto games using four, five, or six different picture cards. Use a Bingo tray or two Lotto trays together to play a larger game using eight or more different picture cards. Select picture cards from the “color groups” listed. Avoid using picture cards of the same

Goal: Matching and Sorting (continued)

shape and color. These cards are bracketed; use only one picture card from such bracketed sets. Play a game using all green cards, all brown cards, and so on. Or combine colors a child finds confusing, such as blue and purple or red and orange, to help him learn to discriminate these differences. For example, combine the following picture cards in a game: carrot, orange, cup, bird, wagon, and shirt. These picture cards display items of different shapes, however all items are orange or red — closely related colors.

Yellow

spoon

fork

toothbrush

hairbrush

banana

sock

drum

Orange

carrot

crayon

comb

orange

pumpkin

ball

Red

apple

cup

book

telephone

bird

wagon

shirt

Goal: Matching and Sorting (continued)

<u>Brown</u>	<u>Green</u>	<u>Gray</u>	<u>Blue</u>
dog	tree	fish	car
cow	Christmas tree	key	truck
horse	shorts	cat	airplane
hot dog	pants	coin	mitten
hat	watch	television	
shoe	snake		
cake			
	<u>Purple</u>	<u>White</u>	
teddy bear	grapes	duck	
glasses	kite	rabbit	
chair	dress	refrigerator	
door	boat		
	lamp		

**Activity 19: Colored picture cards/
game tray/spinner**

Use the game tray and spinner with colored picture cards which are the same color, but different in shape. Select picture cards from the “color groups” listed for this activity. Avoid using picture cards within the same “color group”

Goal: Matching and Sorting (continued)

which show objects of similar shapes. These cards are bracketed; use only one picture card from such bracketed sets. It will be necessary to use picture cards from more than one “color group” in setting up games; use at least two picture cards (and their duplicates) from any “color group” you choose. You may want to use similar colors together in a game; orange and red, blue and purple, gray and brown, green and blue, orange and yellow. To play a game with six different picture cards, sufficient numbers of the following are included:

Yellow

spoon

fork

toothbrush

hairbrush

banana

sock

drum

Orange

carrot

crayon

comb

orange

pumpkin

ball

Red

apple

cup

book

telephone

wagon

shirt

Goal: Matching and Sorting (continued)

Brown

dog

cow

horse

hot dog

hat

shoe

cake

teddy bear

chair

Purple

grapes

kite

dress

lamp

Blue

car

truck

jacket

Activity 20: Colored picture cards/Bingo trays

Play a Bingo game using colored picture cards which have the same color but show objects of dissimilar shape, such as the cards listed in Activity #18. Select at least two different picture cards from any given “color group” you utilize. The game will progress more quickly if you use picture cards which have four or more duplicates. Arrange them in one or both Bingo trays. Add “free spaces” to the trays if you wish. Keep aside a duplicate of each picture card used in the game to form a deck. Before each turn, shuffle the deck, select a card from it, and show it to the child. If she locates

Goal: Matching and Sorting (continued)

a match in the column you indicate, she places a token over it. “Bingo” is declared when a player forms an uninterrupted line of tokens — vertically, horizontally, or diagonally.

Activity 21: Colored picture cards/Domino trays

Use the Domino trays with colored picture cards showing objects of the same color, but differing shapes. Select at least two different picture cards from any given “color group” listed on the following page. In most cases, you will need to combine two or even three “color groups” in order to have pictures of different shapes. To play a Domino game with six different picture cards, sufficient numbers of the following are provided:

Goal: Matching and Sorting (continued)

Yellow

spoon

fork

toothbrush

hairbrush

banana

sock

drum

Orange

carrot

crayon

comb

orange

pumpkin

ball

Blue

car

truck

jacket

Brown

dog

cow

horse

hot dog

hat

shoe

cake

teddy bear

chair

Red

apple

cup

book

telephone

wagon

shirt

Purple

grapes

kite

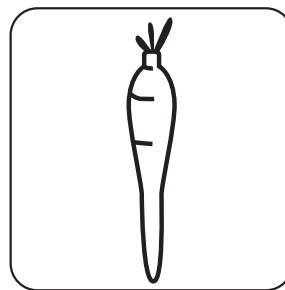
dress

lamp

Activity 22: Colored picture cards

Play a version of “Slapjack” using colored picture cards which are the same color but have different shapes. Select a particular picture card to be the “Jack.” Select five or more different picture cards from those listed in Activity #19; use several duplicates of each including the “Jack.” Place a card which shows the “Jack” you have selected on the Light Box. Shuffle the deck and place a card from the deck on the Light Box. If it matches the “Jack,” the first child to slap it with his hand keeps the card in addition to any other cards which have accumulated since the last “Jack” was turned over. If the card turned over does not match the “Jack,” it is placed in a pile to one side. The next player to “slap the Jack” wins this pile.

Matching: Different shape/black line and outline



Activity 23: Black line cards/trays

When the child capably matches 2" x 2" colored pictures of the same color but different shapes; have her begin to work with the 2" x 2" black line cards provided with the kit. Have

Goal: Matching and Sorting (continued)

her perform matching tasks with pictures which differ in overall shape and amount of inner detail. For example, have the child sort and match some of the following; choose one black line card (and its duplicates) from each group:

Cylindrical

*carrot

*crayon

*fish

*toothpaste

comb

Square

*television

*window

*book

telephone

cake

cup

Oblong

hot dog

shoe

Other

*shirt

*jacket

Round

ball

pumpkin

Other

rabbit

duck

Animal-
Shaped

dog

cat

horse

cow

Tree-
Shaped

*tree

*lamp

*Christmas
tree

Diamond-
Shaped

boat

Other

car

truck

Goal: Matching and Sorting (continued)

Choose any number of the following black line drawings:

teddy bear sock airplane shoe doll

Use the Lotto trays or Bingo trays with the black line cards listed in this activity. Use the game tray or Domino trays with the starred black line cards; choose any five and their duplicates.

Activity 24: Black line cards

Use the black line cards listed in Activity #23 to play other matching games you create; slip cards between sheets of acetate and have the child mark a line from the picture on the left to its match in the right-hand column. Place three to six identical pictures and one different picture between acetate sheets. Have the child find and circle the picture which is different.

Activity 25: Outline cards/trays

Have the child play a matching game using the 2" x 2" outline cards provided in the kit. Select the outline cards that are different. Use any of the following outline cards to play Lotto or Bingo with the appropriate trays. Select one out of each of the following groups:

Goal: Matching and Sorting (continued)

<u>Round</u>	<u>Square</u>	<u>Cylindrical</u>	<u>Oblong</u>
*apple	telephone	*spoon	shoe
*ball	take	*hairbrush	
pumpkin		*crayon	
<u>Diamond-Shaped</u>	<u>Four-Legged Animal</u>	<u>Other</u>	
*ice cream cone	dog	car	
*kite	cat	truck	
*grapes			

Select any of the following:

sock	tree	*airplane	*teddy bear
------	------	-----------	-------------

Use the game tray or Bingo tray with any five or six of the pictures which are starred. Select from a variety of “shape groups.”

Activity 26: Black line cards or outline cards

Play “Slapjack” using black line or outline cards which are of distinctly different shapes. Use cards suggested in Activities #23 and #25. Select five or more different outline cards; use several duplicates of each. Select one outline card to be the “Jack” and place it on the Light Box. Shuffle the deck and place a card from the deck on the Light Box. If it matches the “Jack,” the first child to slap it with his hand keeps the card in addition to any other cards which have accumulated since the last “Jack” was turned over. If the card turned over does not match the “Jack,” it is placed in a pile to one side. The next player to “slap the Jack” wins this pile.

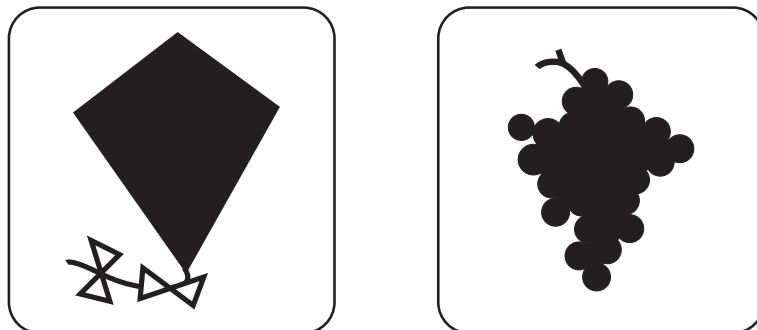
Activity 27: Black line cards or outline cards/ card holders

Play a version of “Gin Rummy” with black line or outline cards with distinctly different shapes. Use cards suggested in Activities #23 and #25. Select six to eight different black line or outline cards; use four duplicates of each. Shuffle the cards and deal each player six cards. Use the card holders provided with the kit so players cannot read each other’s cards. Place the deck in the center of the Light Box and turn over the top card. The first player must decide whether to take the exposed card or draw a new one from the deck. If she decides to keep either card, she must discard one from her own hand. If she does not keep either card, the next player must choose between the upturned

Goal: Matching and Sorting (continued)

card or a card from the top of the deck. The game continues until one player has formed two sets of three matching cards (e.g., three kites and three hats).

Matching: Similar shape/same color



Activity 28: Black line cards or outline cards/ Lotto trays

When the child capably matches 2" x 2" black line and outline cards of objects having different shapes, have him match colored picture cards of objects which have the same color and similar shapes. Using the Lotto trays, select four, five, or six different picture cards from the “color groups” listed for this activity. Select picture cards showing objects from the two “color groups” or select additional cards from the same “color group” to obtain a sufficient number of different picture cards. For example, a Lotto game at this level might include the spoon, fork, toothbrush, hairbrush, carrot and crayon. Another game might include the orange, ball, pumpkin, apple, cup, and telephone.

Goal: Matching and Sorting (continued)

Yellow

spoon	cylindrical
fork	
toothbrush	curved
hairbrush	
banana	
sock	

Orange

carrot	cylindrical
crayon	
comb	round
orange	
pumpkin	
ball	

Brown

dog	similar
horse	animal
hat	shapes
shoe	oblong
cake	

Red

apple	square
cup	
book	
telephone	
shirt	

Goal: Matching and Sorting (continued)

Green

tree	tree-
	shaped
Christmas	
tree	

Blue

car	rectangular
truck	

White

duck
rabbit

Purple

grapes	diamond-
kite	shaped

**Activity 29: Colored picture cards/
game tray/spinner**

Use the game tray with 2" x 2" colored pictures which are similar in color and shape. Select as many picture cards as possible from one "color group" which are also of the same shape. Because numbers are limited it will be necessary for some game set-ups to use cards from more than one "color group" or to use picture cards from the same "color group" which have a different shape. To play a game that incorporates four different picture cards, sufficient numbers of the following are provided. Choose four and their duplicates:

Goal: Matching and Sorting (continued)

Yellow

spoon cylindrical
fork
toothbrush
hairbrush

Orange

carrot cylindrical
crayon
comb

Brown

hot dog oblong
hat
shoe
cake

Red

apple square
cup
book
telephone

To play a game that incorporates five or six different picture cards, sufficient numbers of the following are provided.

Choose five or six and their duplicates:

Red

apple square
cup
book
telephone

Purple

grapes diamond-shape
kite

Goal: Matching and Sorting (continued)

Yellow

spoon cylindrical
fork
toothbrush
hairbrush
banana curved
sock
drum

Orange

carrot cylindrical
crayon
comb
orange
pumpkin round
ball

Blue

car rectangular
truck

Brown

dog similar
cow forms
horse
hot dog oblong
hat
shoe
cake

Activity 30: Colored picture cards/Bingo trays

Play a Bingo game using 2" x 2" colored pictures which have the same color and shape, such as the cards suggested in Activities #28 and #29. Within a given "color group", select picture cards which are the same shape. It may be necessary to choose from several "color groups" or to use different shapes within a single "color group" to obtain enough cards for a full game. The game will move more quickly if you use picture cards which have four, five, or six duplicates. (See Activity #5 for instructions on how to play the Bingo game.)

Activity 31: Colored picture cards/Domino trays

Play a Domino game using 2" x 2" colored pictures which have the same color and shape. As with preceding activities, it may be necessary to use picture cards from more than one "color group" but with differing shapes to acquire the necessary number for a game. To discriminate among four, five, and six different picture cards, sufficient numbers of the following have been provided. Select four picture cards and their duplicates:

Goal: Matching and Sorting (continued)

Red

apple

square

cup

book

telephone

Yellow

spoon

cylindrical

fork

toothbrush

hairbrush

Orange

carrot

cylindrical

crayon

comb

Brown

hot dog

oblong

hat

shoe

cake

To discriminate among five or six different picture cards, the following may be used. Choose five or six and their duplicates:

Purple

grapes

diamond-
shaped

kite

Blue

car

rectangular

truck

Goal: Matching and Sorting (continued)

Red

apple square
cup
book
telephone

Yellow

spoon cylindrical
fork
toothbrush
hairbrush
banana curved
sock

Orange

carrot cylindrical
crayon
comb
orange round
pumpkin
ball

Brown

dog animal-
cow shaped
horse
hot dog oblong
hat
shoe
cake

Goal: Matching and Sorting (continued)

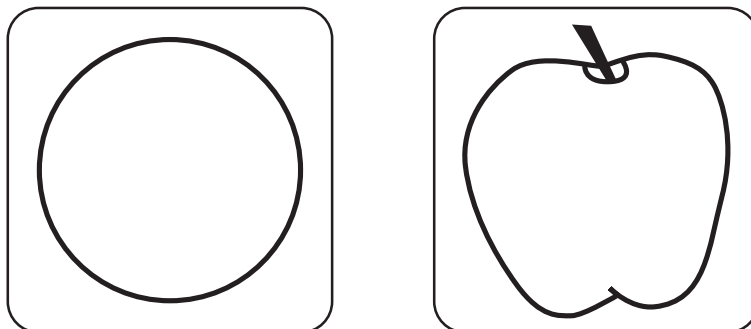
Activity 32: Colored picture cards

Play “Slapjack” using colored picture cards which resemble one another in shape and color. Select five or more different picture cards from one group. Use several duplicates of each.

<u>Game A</u>	<u>Game B</u>	<u>Game C</u>
apple	spoon	hot dog
cup	fork	hat
book	toothbrush	shoe
telephone	hairbrush	cake
wagon	crayon	door
shirt		

Select one picture card to be the “Jack” and place it on the Light Box. Shuffle the deck and place a card from the deck on the Light Box. If it matches the “Jack,” the first child to slap it with her hand keeps the card in addition to any other cards which have accumulated since the last “Jack” was turned over. If the card turned over does not match the “Jack,” it is placed in a pile to one side. The next player to “slap the Jack” wins this pile.

Matching: Similar shape/black line and outline



Activity 33: Black line cards

When the child successfully matches colored picture cards of similar shape and color, have him play the various kit games using 2" x 2" black line cards which are similar in shape.

Choose as many as possible from the “shape groups” or use several from two “shape groups.”

Cylindrical

*carrot

*crayon

*fish

*toothpaste

comb

Square

*television

*window

*book

telephone

cake

cup

Oblong

hot dog

shoe

Round

ball

pumpkin

Goal: Matching and Sorting (continued)

Four-Legged

Animal

dog

cat

horse

cow

Other

rabbit

duck

Other

*shirt

*jacket

Other

car

truck

Other

*tree

*lamp

*Christmas tree

Use the Lotto cards or Bingo trays with any of the picture cards listed above. (Activity #4 explains how to play Lotto; Activity #5 details how to play Bingo.)

Use the Game tray or Domino trays with any five of the starred picture cards listed above. (Activity #7 gives instructions for using the game tray; Activity #8 explains how to play Dominoes.)

Activity 34: Outline cards

When the child is able to match black line cards which are similar in shape, select outline cards which are similar in shape to play various kit games. Use the Lotto or Bingo trays with outline cards from the shape groups listed below. Select four or more different outline cards and their duplicates to fill the trays, using as many different outline cards from a single “shape group” as possible. To practice matching with the Domino trays or game tray, use the starred cards listed below. Select five or six outline cards and their duplicates to fill the trays.

Diamond-Shaped

*ice cream cone

*kite

*grapes

Cylindrical

*spoon

*hairbrush

*crayon

Round

*apple

*ball

pumpkin

Square

telephone

cake

Other

dog

cat

Other

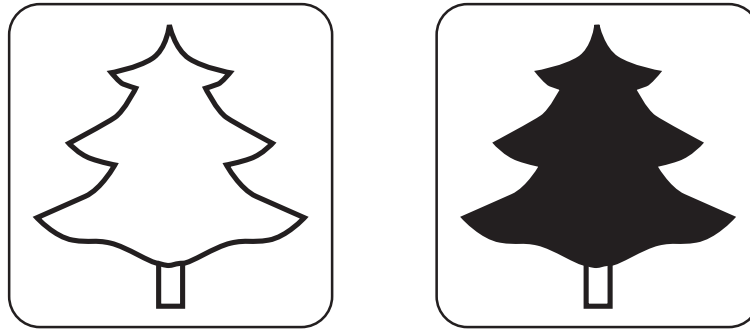
car

truck

(Activity #4 explains how to play Lotto; Activity #5–Bingo; Activity #7–Game tray; Activity #8–Dominoes.)

Goal: Matching and Sorting (continued)

Matching: Colored pictures to black line and outline



Activity 35: Colored picture cards/black line cards/trays

Have the child match 2" x 2" colored picture cards to 2" x 2" black line cards depicting the same object. Explain that she will be matching pictures which are of the same object, but that some are colored and some are not. Create your own worksheets by placing cards between two sheets of acetate.

Activity 36: Colored picture cards/black line cards/trays

Have the child play various kit games, such as Lotto or Bingo, using the colored and black line cards. Place black line cards in the tray. Spread matching colored picture cards on the Light Box and have the child match them to the black line cards. To play a game using Domino trays, place a

Goal: Matching and Sorting (continued)

mixture of black line cards and colored cards in the trays.
Try some of the following groupings for Lotto, Bingo, and
Dominoes:

Game A

carrot

crayon

comb

Game B

shirt

jacket

car

truck

Game C

window

television

book

Game D

boat

lamp

tree

Christmas
tree

Game E

pumpkin

ball

telephone

cake

Game F

hot dog

fish

duck

shoe

Game G

horse

cow

dog

cat

(Activity #4 describes how to play Lotto; Activity #5–Bingo;
activity #8–Dominoes.)

Goal: Matching and Sorting (continued)

Activity 37: Colored picture cards/black line cards/game tray/spinner

Play various games using the game tray. Mix black line cards or colored picture cards using the groupings suggested in the preceding activity or set up the spinner with black line cards and use colored picture cards in the squares around the tray. Choose any five of the following colored picture cards plus one corresponding black line card (e.g., five colored carrots plus one black line carrot).

carrot	hot dog	sock	dog
crayon	telephone	cup	car
comb	pumpkin	horse	truck
cake	ball	cow	book

(Activity #7 provides instructions for using the game tray.)

Activity 38: Black line cards/outline cards

Have the child match 2" x 2" black line cards or 2" x 2" colored picture cards to the 2" x 2" outline cards provided with the kit. Create worksheets by slipping cards between two acetate sheets.

Activity 39: Colored picture cards/black line cards/outline cards

Play “Slapjack” using a mixture of black line, outline, and colored picture cards. Select a particular pictured item to be the “Jack” — a pumpkin, for example. Select several colored, black line, and outline pumpkins. Choose several other cards using a mixture of black line, outline, and colored cards. Place one of the pumpkins on the Light Box. Shuffle the remaining cards to form a deck and place a card from the deck on the Light Box. If the card is a pumpkin (black line, outline, or colored), the first child to slap it with his hand keeps the card in addition to any other cards which have accumulated since the last “Jack” was turned over. If the card turned over does not match the “Jack,” it is placed in a pile to one side. The next player to “slap the Jack” wins this pile.

Activity 40: Colored picture cards/black line cards/outline cards/Lotto trays

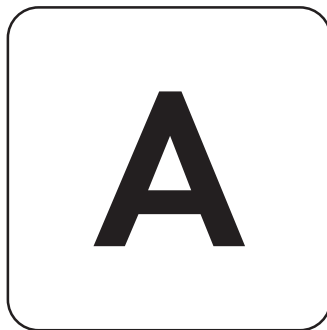
Play Lotto games using any of the following cards. Place outline cards in the tray and provide colored pictures or black line cards for matching or practice the reverse, placing colored picture cards in the tray.

Goal: Matching and Sorting (continued)

tree	*car	teddy bear	spoon
*telephone	*truck	kite	ball
*cake	*dog	ice cream cone	apple
*pumpkin	*cat	grapes	crayon
*shoe	*airplane	hairbrush	
sock			

Starred cards are available as outline cards, black line cards, and colored pictures. Remaining cards are available only in outline card and colored picture form.

Matching: Symbols and letters



Activity 41: Activity Sheets: #94-96

Have the child practice matching abstract patterns such as those provided on Activity Sheets #94-96. Make your own abstract pattern cards and worksheets using acetate, colored and black markers, or black opaque paint and colored art film. (See “Additional Materials” on page 25 for ideas.)

Activity 42: Letter and number cards

Use the 2" x 2" letter and number cards for matching and sorting. Select letters or numbers which differ from one another in obvious ways: N, O, S, I, X or a, f, l, v, z, or 1, 3, 4, 6. Name the letters and numbers you use with the child. Point out distinguishing features: “The letter X has two straight lines that cross in the middle.” “The letter S is one line that curves at the top and the bottom.” Create worksheets by placing two sets of numbers and/or letters between two acetate sheets. Have the child draw lines connecting matching letters or numbers. Group a variety of cards between two sheets. Place one card at the top and have the child circle all other cards which match it.

Activity 43: Letter and number cards/trays

Play a Lotto game using the 2" x 2" letter and number cards. Again, use letters and numbers which have distinctly different configurations. Use the Lotto trays. If you wish to use the Game tray and Bingo trays, make additional letter and/or number cards by using the blank transparent vinyl

Goal: Matching and Sorting (continued)

cards provided with the kit and a marker, black opaque paint, purchased transfer lettering, or vinyl stick-on letters from a commercial art store or catalog. (See “Additional Materials” on page 25 for catalog addresses.)

Activity 44: Letter and number cards/trays

Have the child match and sort letters and numbers which more closely resemble one another. Create your own worksheets or additional cards for use with the Game tray or Bingo trays using markers, black opaque paint, transfer lettering sheets, or stick-on vinyl letters. The following are letters which are commonly confused. Point out their similarities and differences to the child. In some cases, letters are the same shape but are merely oriented differently or placed high or low on the line of writing. You can use a single card to demonstrate these differences. Have the child imitate your placement of the card with its duplicate.

A lowercase letter 'b' is centered inside a rounded square box.A lowercase letter 'd' is centered inside a rounded square box.A lowercase letter 'p' is centered inside a rounded square box.A lowercase letter 'q' is centered inside a rounded square box.

Goal: Matching and Sorting (continued)

The following are some examples of groups of similar letters:

EFL OQCGD TIL ZS
UVW PRBD MNWV
RK JU AH AV YVX

bdpqq ygpqi ceo
yvw sz iltf hnurm

Activity 45: Activity sheets: #97-100

Have the child complete Activity Sheets #97-100. These show letters and various reversals and misplacements of strokes.

Activity 46: Activity sheets: #94-96

Have the child practice matching and sorting abstract patterns which are very similar, such as the patterns shown on Activity Sheets #94-96. Make your own abstract pattern cards, too, using acetate, colored and black markers or black opaque paint and colored adhesive art film. (See “Additional Materials” on page 25 for ideas.) This activity may be more difficult than subsequent activities in this section depending upon the degree of similarity between patterns.

Goal: Matching and Sorting (continued)

Activity 47: Letter and number cards

Play “Slapjack” using letter and number cards. It will be necessary to make additional cards using acetate and a marker. Select five or more different letters; you will need several duplicates of each letter. Choose one letter to be the “Jack” and place it on the Light Box. Shuffle the deck and place a card from the deck on the Light Box. If it matches the “Jack,” the first child to slap it with her hand keeps the card in addition to any other cards which have accumulated since the last “Jack” was turned over. If the card turned over does not match the “Jack,” it is placed in a pile to one side. The next player to “slap the Jack” wins this pile. To make the game more difficult, mix capital and small letters in your “Slapjack” game.

Activity 48: Letter and number cards/card holders

Make additional letter cards using acetate and a marker. Use the additional cards to play different “Gin Rummy” games. You will need four duplicates of each letter. (Two of each letter are already provided with the kit.)

Goal: Matching and Sorting (continued)

<u>Game A</u>	<u>Game B</u>	<u>Game C</u>	<u>Game D</u>
A (4)	O (4)	t (4)	b (4)
M (4)	Q (4)	s (4)	d (4)
O (4)	C (4)	P (4)	p (4)
V (4)	G (4)	v (4)	q (4)
S (4)	D (4)	h (4)	g (4)
X (4)	U (4)	x (4)	y (4)
T (4)	J (4)	l (4)	a (4)
B (4)	V (4)	k (4)	h (4)

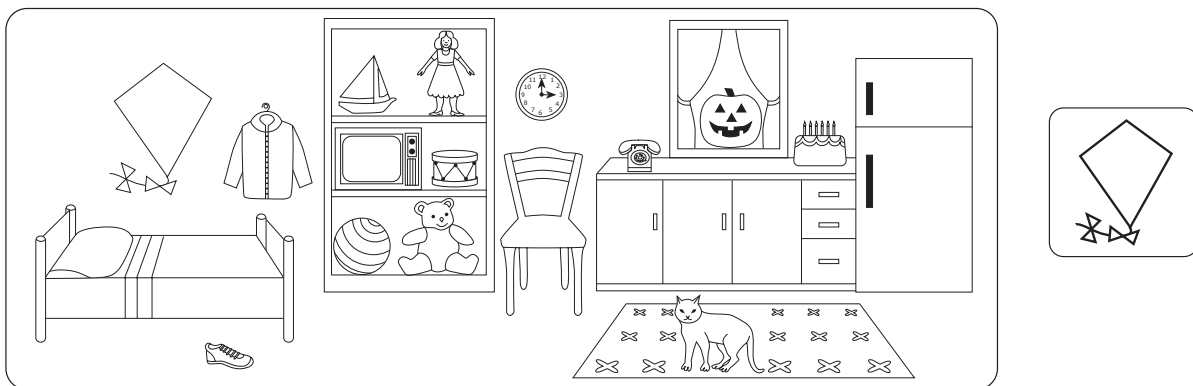
Shuffle the cards and deal each player six cards. Use the card holders provided with the kit so players cannot read each other's cards. Place the deck in the center of the Light Box and turn over the top card. The first player must decide whether to take the exposed card or draw a new card from the deck. If he decides to keep either card, he must discard one from his own hand. If he does not keep either card, the next player must choose between the upturned card or a card from the top of the deck. The game continues until one player has formed two sets of three matching cards (e.g., three A's and three O's).

Goal: Matching and Sorting (continued)

Activity 49: Letter and number cards/card holders

When the child capably matches the lower and upper case letters provided with the kit, acquaint her with other type fonts she is likely to encounter in school texts and worksheets. A wide variety of vinyl stick-on letters and rub-on transfer letters is available at commercial art supply stores. Normally the stores have catalogs which show all the type fonts and point sizes they offer. Use the transparent vinyl blanks provided with the kit or clear acetate or tracing paper cut into squares with the letters you purchase. Use any of the kit's games — Lotto, Game tray, Bingo, etc. — and have the child match and identify these new fonts.

Matching: Small pictures to large scene



Activity 50: Room scene or farm scene/colored picture cards

The following activity may be more difficult for students with very low acuity or visual field defects than other activities in this section since it involves scanning a large scene to locate matching objects. If the child has difficulty with this task, use the suggestions offered or incorporate this task later continuing with other activities for the present. Use the farm scene and the following 2" x 2" colored picture cards. Have the child match the small pictures to the same item depicted in the large scene:

horse

car

Christmas tree

cow

truck

tree

dog

boat

duck

rabbit

airplane

Goal: Matching and Sorting (continued)

Introduce the large scene giving the child a few moments to look it over. To simplify the task, block off half or more of the larger scene. Give the child a card depicting an object in the visible portion of the scene. Encourage him to use available clues — overall shape, color, and context — as he scans the scene. The object in the scene may be of a different size. Help him scan the scene in an organized manner if he has difficulty spotting the proper match. Perform the same activity using the Room Scene and the following 2" x 2" colored picture cards.

chair	refrigerator	telephone
shoe	pumpkin	kite
sock	watch	jacket
cat	cake	ball
television	doll	boat
drum	teddy bear	

Activity 51: Room or farm scene/black line cards

Use the room scene and farm scene with the following black line cards. Have the child match the individual cards to the same items shown in the larger scene. See Activity #50 for suggestions on introducing this task. The following black line cards may be used:

Room Scene

telephone	shoe
cake	sock
chair	cat
pumpkin	boat
teddy bear	doll
jacket	ball
television	

Farm Scene

boat	car
tree	truck
dog	Christmas tree
duck	airplane
horse	cow

Goal: Matching and Sorting (continued)

**Activity 52: Room scene or farm scene/
outline cards**

Perform Activity #51 using outline cards. The following are available:

Room Scene

telephone

cake

pumpkin

shoe

sock

cat

kite

ball

teddy bear

Farm Scene

car

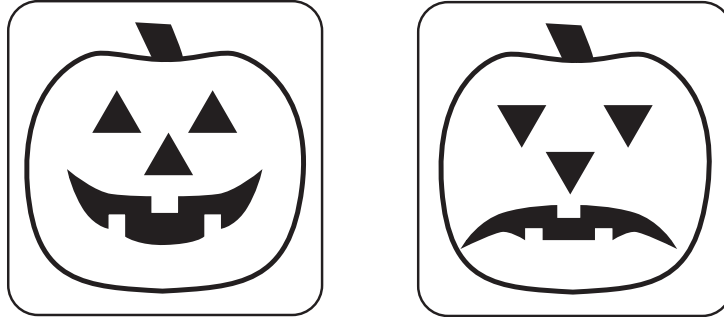
truck

dog

airplane

tree

Matching: Differing Detail



**Activity 53: Differing detail cards/
Lotto or Bingo trays**

Introduce matching pictured objects on the basis of differing detail. Some students find this type of matching more difficult than letter and number matching. Use the 2" x 2" differing detail cards provided with the kit to play a variety of matching games. Use them with the Lotto or Bingo trays. At first, use two or three pairs of cards for matching. Later, use all five pairs in the Differing Detail “sets” in addition to corresponding colored picture cards of the same object to provide a total of six pairs.

Make worksheets with the cards. Place the cards under a sheet of acetate and have the child draw a line connecting the pictures which match. As you work with the child, point out dissimilarities the child misses. Help her devise a systematic method of scanning a picture for detail.

Goal: Matching and Sorting (continued)

Activity 54: Differing detail cards/card holders

Play simple card games with the Differing Detail cards. Shuffle one “set” of twelve cards, for example, all those depicting a house. Deal the cards into two piles — one pile for each player. The first player selects one of his cards and places it on the Light Box. If the second player has the matching card among his cards, he may set aside and keep the matched pair. The player with the most pairs is the winner of the game.

Goal: Recognition and identification

Activity 1:

First, make sure the child is able to name some familiar objects shown on the Light Box. Choose items which display well on the Light Box, such as a spoon, fork, comb, crayon. Larger, more three-dimensional objects would be more difficult to identify on the illuminated work surface. If the child is beginning to identify objects in her environment, continue with the following exercises which ask her to identify pictures of familiar objects.

Activity 2: Large colored pictures/ colored picture cards

Use the 4" x 4" and 2" x 2" colored pictures with the child. Gather some of the actual objects they represent, such as the spoon, crayon, toothbrush. Have the child identify the object, then find its picture, naming it aloud as well.

Activity 3: Colored picture cards

Show the child various 2" x 2" colored pictures and have him identify the objects shown. When necessary, help him examine the picture. Discuss its color, general shape, and parts of the object (i.e., "What could this thing on top be? ... a stem?"). If the child cannot name the object he may be able to tell you other things about it, such as whether it is food, an article of clothing, belongs in the house, etc.

Goal: Recognition and Identification (continued)

Activity 4: Room scene/farm scene

Look over the room scene and farm scene with the child. Have her name objects shown in the scenes. This activity may be easier for her than the preceding one, since she will be able to use the context of the scene to help her.

Activity 5: Logic sequence sets

Use the logic sequence sets having the child identify objects pictured on the cards — a glass of milk, coins, grocery cart, and more. Again, encourage him to use the context of the scene to help him “reason out” the object’s identity should he have difficulty.

Activity 6: Colored picture cards/clock face trays

Place different 2" x 2" colored picture cards around the clock face and play a variety of games in which you or the child manipulates the hand as a pointer. For example, you point the arrow at a card. If the child names the card correctly, she receives a poker chip. If you play with several children, the child with the most chips is the winner or, use the spinner rather than the clock face. Place cards beneath the spinner and let the child spin and then name the card the arrow points toward.

Activity 7: Colored picture cards/game tray/spinner tokens

Place six different 2" x 2" colored picture cards under the spinner on the game tray. Assign a "point value" to each card (e.g., clock = 2, cat = 4, key = 1, etc.). Each player spins the spinner. If he can name the object the spinner is pointing to, he may move his token forward the number of spaces indicated by that card's "value." The first player to move around the board two full turns is the winner.

Activity 8: Colored picture cards/Bingo trays

Play Bingo using a variety of 2" x 2" colored picture cards in the Bingo tray. Save one copy of each different picture card you use to form a deck. Shuffle the deck, select a card and name it. (Don't allow the players to see the card.) After you name the card, players place poker chips over the corresponding card in their own trays. The first player to have a Bingo (an uninterrupted horizontal, vertical, or diagonal line of chips) is the winner.

Activity 9: Colored picture cards/Bingo tray/card covers

Fill the Bingo tray with different 2" x 2" colored picture cards. Cover each of the cards with the black plastic covers included with the kit. Let the first player lift one of the covers. If she can name the object below it, she may keep the card.

Goal: Recognition and Identification (continued)

If she cannot name the card, the next player has a chance to name it and may also uncover and try to name a new card.

Activity 10: Colored picture cards/card holders

Play a card game using 2" x 2" colored picture cards which require students to name the pictured objects. Select eight different picture cards and use three to four duplicates of each. Use the card holders provided with the kit. Students are dealt a hand of cards. The remainder are placed in a deck in the middle of the Light Box. The object of the game is to make sets of three or four matching cards. To play, the first player asks the player on his right for a particular card he needs to begin forming a set: "Do you have a pumpkin?" If the opposing player has a card showing a pumpkin, he must give it to the player who requested it. If he does not, he responds "go fish." The first player must then draw from the deck. He may choose whether or not to keep the drawn card. If he receives a card from another player or the deck, he must discard from his hand. The game continues around the circle until one of the players has formed sets of all his cards.

Activity 11: Black line cards/outline cards

Have the child identify black line and outline cards. Use the games suggested in Activities #6-10. Some outline cards may be very difficult to identify. They may be interpreted as several types of things. Encourage the child to make a reasonable guess.

Activity 12: Large colored pictures/colored picture cards/black line cards/differing detail cards/room scene/farm scene

Have the child name parts of pictured objects, such as the table's leg, airplane's wing, and so on. Use any of the kit's pictures for this purpose. Rather than pointing to the parts to be identified, you could show the child a picture asking her to name as many parts as possible (i.e., dog's nose, tail, leg, foot, ear, tongue, head).

Activity 13: Logic sequence sets

Show the child any of the logic sequence cards and ask him to tell you what is happening in the picture. You may need to prompt the child with additional questions or information: "The girl has something in her hand. What is it?" Speculate with the child about what might happen right after the picture and what may have happened just before.

Activity 14: Colored picture cards

Use the 2" x 2" colored picture cards and have the child group together pictured objects which belong together such as food, clothing, household items, animals, and transportation. Have her name the objects and name the larger group to which they belong. She may be able to name subgroups such as fruit, desserts, winter clothing, summer clothing, farm animals, and pets. At first, group several pictures for the child. Tell her these are alike in some way.

Goal: Recognition and Identification (continued)

Ask her to tell you how they are similar. Help the child choose an appropriate name for the group. Later provide her with cards, have her sort them into groups, then explain her reasoning to you.

Activity 15: Colored picture cards/card holders

Have players play a version of “Crazy 8’s.” Use the following 2" x 2" colored picture cards:

banana	drum	spoon	sock
cake	teddy bear	chair	shoe
grapes	kite	lamp	dress
apple	wagon	telephone	shirt

Select one group of the picture cards such as all the “apples” to be the “8” card. Deal each player eight cards and shuffle the rest to form a deck.

Turn over a card from the top of the deck. The first player attempts to put down another card from his hand which is the same color as the upturned card or belongs to the same category (food, toys, household items, clothing). If he cannot, he must draw from the deck until he receives a card which he can play. The “8” card serves as a wild card and can be played at any time. The game continues until one player wins by playing all of his cards.

Activity 16: Letter and number cards

Perform Activities #6-10 using letter and number cards. Point out similarities and differences among letters. Continue practicing matching activities which involve letters and require the child to name the letters she matches.

Activity 17: Letter cards

Give the child all the letters needed to spell his name or the name of a friend, pet, or favorite food. As you spell the word aloud, naming each letter, he must find the letter and put it in place on the Light Box.

Activity 18: Letter cards

Spell short words or words which have special meaning for the child. Practice these “sight words” with the child until she can recognize them and read them aloud.

Goal: Spatial relationships

Activity 1:

Use various concrete objects on the Light Box. Gather two of each object (e.g., two spoons, two blocks, two cups, two small toy Matchbox® cars). Arrange one spoon, car, and block in various positions, then have the child imitate them with his set of matching objects. Place the spoon in the cup, the block beside the car, the car between the block and spoon, and so on. Spatial relationships you may demonstrate include: in, out, right, left, above, below, under, over, beside, on top of.

Activity 2: Clock face trays

Use the clock face tray with only one hand attached. Spend a few moments letting the child twist and point the hand (arrow) in various directions. Have her point the arrow at herself, at you, at the top and bottom of the clock face. Place the second clock face on the Light Box with one hand in place. Point the arrow in a variety of directions and have the child imitate your placement of the arrow on her clock face.

Activity 3: Clock face trays

Use the clock face trays with both hands attached. Using suggestions provided in Activity #2, show the child how to independently position each hand. Show him various positions on your clock face and have him imitate the positions of both hands on his clock face.

Goal: Spatial relationships (continued)

Activity 4: Lotto trays/Bingo trays/card covers

Use the Lotto and Bingo trays with card covers, poker chips, or a small toy. Place a card cover or toy in one of the squares of your tray and have the child place a cover or toy in the corresponding square of his tray.

Activity 5: Lotto trays/Bingo trays/card covers

Use some concrete objects on the Light Box such as a cup, small block, or crayon. Give the child directions as she manipulates the objects, testing her understanding of various spatial terms:

“Put the block in the cup.”

“Place the crayon next to the cup.”

“Put the block between the crayon and the cup.”

“Place the cup over the block.”

When she has difficulty, name the term for her (e.g., “between”) and provide several examples of “between” before continuing.

Activity 6: Lotto trays/Bingo trays/card covers

Using objects again, arrange them in a particular way. Have the child describe the arrangement using appropriate spatial terms. You may prompt him by asking questions such as:

Goal: Spatial relationships (continued)

“What’s next to the cup?”

“Where is the block?”

“Is the pencil between the cup and the block?”

If he is unable to answer with an appropriate description, return to Activity #5. Direct him to place the objects in the specified relationship.

Activity 7: Clock face trays

Using the clock face, have the child point the hand up, down, left, or right, as she identifies where she has pointed the hand or, call out directions and have the child position the hand appropriately. Try the activity using both hands of the clock. For example, “Long hand *up*; short hand pointing *right*.”

Activity 8: Lotto trays/Bingo trays/card covers

Explore the meaning of various spatial terms using the Lotto and Bingo trays, small toys, poker chips, or the card covers provided with the kit. Direct the child to place a cover or toy in various squares:

“Put a cover in the middle square.”

“Put a toy in a square on the bottom row.”

“Put a cover in the top row.”

“Put a poker chip in the left corner on the bottom.”

Goal: Spatial relationships (continued)

Further practice with directions referring to rows, columns, and corners of a grid is provided in the Level 2 materials.

Activity 9: Large colored pictures/ colored picture cards

Place a picture on the Light Box, right-side up or upside down. Give the child an identical picture and ask him to orient his picture just as you have oriented yours.

Experiment with turning the picture to face left and face right. Since the pictures are transparent, many different orientations are possible.

At first, choose pictures which are asymmetrical and have obviously different shapes when oriented up or down, or faced left or right, such as the animal pictures, wagon, and truck. Some pictures have obviously different up and down orientations, such as the pants, ice cream cone, tree, lamp, and boat, but have few or no differences when oriented to the left or right. When the child is practiced in noticing detail, determine if he can notice subtle differences in orientation such as the ice cream cone faced left or right.

Activity 10: Outline cards

Perform Activity #9 using outline pictures. These may be more difficult for the child to match orientations.

Activity 11: Store scene/colored picture cards

Using the large “store scene,” explore various features with the child such as the large refrigerator (or cabinet) on the left-hand side of the picture, the grocery cart, the counter on the right, the shelves above and below the counter, and the cash register at the far right edge of the illustration. As you explore these features with the child, use spatial terms, such as over, above, below, under, beneath, left, right, beside, on top of, next to.

When she is familiar with the illustration, use some of the following 2" x 2" colored pictures to “stock” the store. Where multiples of some pictures are available, use them as well.

hat	apple	orange
drum	banana	grapes
clock	carrot	cake
telephone	toothpaste tube	ice cream cone
television	book	lamp
cat	doll	car
duck	ball	truck
kite	teddy bear	airplane
		boat

Some of the pictures will not be properly proportioned when compared to one another or to the larger illustration. Eliminate these or discuss the discrepancy with the child, explaining that the pictured apple is not that big compared to the shopping cart “in real life,” but the picture will be used in this game. If this explanation is confusing to the child,

Goal: Spatial relationships (continued)

spend more time working with real objects and their pictured representations. This activity may be performed in several versions.

- a. Have the child place the pictured objects in various locations on the illustration such as on the “top shelf,” “below the counter,” “inside the refrigerator,” etc. Direct her as to where she should place each item or allow her to position the item. Have her describe to you where she has placed it. As a part of this game, tell the child that she is the shop owner and may decide what to sell and where to put it.
- b. Stock the store yourself and have the child go on a shopping trip. She must observe which items are in the store, their location and to ask for each item she wants by describing to you its location.

“I want the doll on the top shelf.”

“I’d like to buy the apple next to the cash register.”

Activity 12: Farm scene/room scene

Use the farm scene and room scene to practice use of proper spatial relations terms. Have the child examine the scene asking him the location of various objects. He must describe their location to you. Have him see how many different ways he can describe the position of an object.

“The TV is on the shelf, above the ball, next to the drum, and under the doll.”

Activity 13: Logic sequence cards

Have the child study various pictures from the logic sequence cards and describe the positions of objects within the picture. Play the game suggested in Activity #7 or play a “What Is It?” game. Name a position, such as “on top of the dresser.” Then ask, “What is it?” The child must at least locate the item. Help her identify the object, if necessary.

Activity 14: Logic sequence cards

Play a game with any of the pictures in the kit, cutouts you make, paperdolls, or stencils. Tell a story and have the child manipulate the pictures or cutouts on the Light Box along with the story. Some suggestions to get you started are:

“A cat went out on a walk. He jumped on top of the fence, crawled inside a box, chased behind a mouse, and ran away from a dog up a tree...”

“I went looking for a hidden treasure. I went up a hill. On top there was a wall, I climbed over the wall...”

“In my room the chair is on the right side of the bed. There’s a table on the left side, and a clock on top of the table...”

Activity 15: Three Bears story overlay

Using the “Three Bears” story overlays, have the child move the pictures to display actions within the story.

Goal: Spatial relationships (continued)

Once upon a time, there were three bears. They were a family. Papa Bear was very big, Baby Bear was very small, and Mama Bear was medium size — not very big, but not very small. Their house had three beds, three chairs, and a table. The three beds were in a row on the right side of the room. The table was in the middle and the chairs were in a row on the left side of the room.

One morning Mama Bear put three bowls of cereal on the table, but they had no milk, so they went for a walk to get some milk. They didn't lock their house, so a little girl named Goldilocks came by and wondering whose house it was, went in. She sat in Papa Bear's chair but it was too big. She sat in Mama Bear's chair and it was too big. She sat in Baby Bear's chair and it was just the right size. Soon she felt hungry, got up, and stood beside the table. Papa Bear's and Mama Bear's cereal bowls were too big, but Baby Bear's bowl was just right. She was so hungry she ate all of the cereal with no milk! Afterwards she began to feel sleepy. She laid on Papa Bear's bed. It was too big. She laid on Mama Bear's bed. It was too big. She laid on Baby Bear's bed and it was just the right size. Soon she fell sound asleep.

Later, the three bears came home. Papa Bear sat in his chair. "Someone's been sitting in my chair!" he said. Mama Bear sat in her chair. "Someone's been in my chair too!" she said. Baby Bear sat in his chair. "Someone's been in my chair, too!" he said.

Goal: Spatial relationships (continued)

The bears stood next to the table. “Someone’s been eating our cereal,” Papa and Mama Bear said. “Someone’s been eating my cereal and its all gone!” said Baby Bear.

Papa and Mama Bear stood beside their beds. “Someone’s been sleeping in our beds,” said Papa and Mama Bear. Baby Bear stood beside his bed. “Someone’s been sleeping in my bed and she’s still there!” said Baby Bear.

The three bears rushed to look at Goldilocks, who woke suddenly to see the three bears standing around the little bed. She jumped up, ran out the door, and went home as fast as she could go!

Activity 16: Clock face trays/number cards

Place numbers around the clock face trays as they would appear on a clock. Point the long hand of your clock straight up at the “12” and have the child do the same. Working with the child, demonstrate various significant times of day such as 7 o’clock we get up, 8 o’clock we come to school, 10 o’clock we have snacks, etc. The child should imitate the proper placement of the clock hands on his clock face. Practice this until he becomes thoroughly familiar with the numbers and proper clock-hand orientations. Play games in which you show him a time (e.g., 12 o’clock). He must tell you what happens, or name an activity. Then ask him to show you what time it occurs.

Goal: Spatial relationships (continued)

Activity 17: Clock face trays/number cards

Place numbers around the clock face tray as they would appear on a clock. Show the child the direction the long hand moves around the clock. When she has practiced this, show her that the short hand also moves in the same direction — moving one number each time the long hand goes around once.

Activity 18: Letter cards

As you look at individual letter cards or draw letters on acetate with a marker, point out various features to the child:

Capital *A* is made with two straight lines going *up* to a point, and a short line *across* the *middle*.

Capital *B* is one line going *up* with two curves *beside* it.

Capital *C* is one big curve.

Capital *D* is a straight line going *up* with a big curve *beside* it.

Activity 19: Colored picture cards/large colored picture cards

As you look at individual picture cards, play a pretend game. “We’re going to hide this object in a box. Let’s figure out what shape box we need to fit it in.” Using a grease pencil or marker on acetate placed over the picture, help the child draw a square or rectangular box around the object. Do this

Goal: Spatial relationships (continued)

with several picture cards, then shuffle the cards and have the child match them to their proper “box.”

Activity 20: Colored picture cards/large colored picture cards

Draw “boxes” to fit various picture cards on a sheet of acetate. Give the child the corresponding picture cards and have him “hide” each object in the box which best fits it.

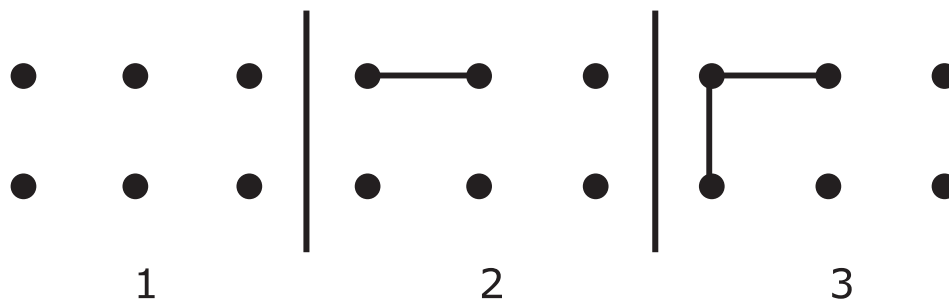
Activity 21: Letter cards

Perform Activity #19 using letter cards rather than picture cards.



Activity 22: Letter cards

Use acetate and grease pencils, markers, or specially cut posterboard pieces to play Tic-Tac-Toe or a simple grid game where you and the child take turns drawing a line to attempt to complete a square.



Goal: Visual memory

Activity 1:

Check to see that the child can perform visual memory exercises using familiar objects, such as a spoon, crayon, comb, or pencil. Place one of these on the Light Box for the child to view. Encourage her to name it aloud and handle it. Have her close her eyes then mix the object with several other objects. Have the child open her eyes and point to the object she saw moments before.

Activity 2:

If the child is able to verbally identify most objects in Activity #1, using illustrations, place several objects on the Light Box. Have the child look over the objects. It may help him to name them aloud. Ask him to close his eyes, then remove one of the objects. Have the child open his eyes and tell you which object is missing.

Activity 3: Large colored picture cards/ colored picture cards

Perform the task outlined in Activity #1 using pictured materials. Use the 4" x 4" colored pictures or 2" x 2" colored pictures. At first, select those which might make a special impression on the child such as one card which is a favorite color, a dog if she has a pet dog, or a birthday cake. Let her view the picture(s) for ten seconds, then remove it. Ask the child to verbally identify the picture or mix the picture with other pictures distinctly different in shape and color. Have

Goal: Visual memory (continued)

the child point to the picture she saw a few moments before. If she performs the task correctly, mix the picture with other similar pictures the next time. For example, show her the carrot, then mix it with crayon, comb, and spoon. Continue making the task more and more difficult by allowing the child to view the picture for shorter periods of time and by selecting very similar pictures to display.

Activity 4: Colored picture cards or black line cards/Lotto tray/card covers

Tell the child you are going to play a kind of “Hide and Seek” game. Place a card in one of the squares of the Lotto tray. Let the child look at the tray for a few moments and tell him to remember where the picture is located. Have him close his eyes, then cover each of the squares in the tray with the black plastic covers in the kit. When the child opens his eyes, ask him to lift the cover which has the picture under it. Perform the same task using some or possibly all of the squares in the Bingo tray. You can play the game with two children. Let each keep the picture they find.

Activity 5: Colored picture cards or black line cards/Lotto tray/card covers

Perform Activity #2 using 2" x 2" picture cards. Arrange several on the Light Box or place them in a Lotto tray. Have the child look over the pictures. Naming them aloud may help her remember what she has seen. Ask the child to close her eyes, then cover one of the pictures with a black plastic

Goal: Visual memory (continued)

cover provided with the kit. Have the child open her eyes and tell you which picture is covered. To make the game more difficult, use picture cards which are similar to one another. Use the orange, the pumpkin, and the ball. Increase the number of picture cards you use. Fill the Lotto card holder and cover one of the cards. Have the child identify it and then cover another.

Activity 6: Black line cards or outline cards or differing detail cards/letter and number cards

Perform Activity #3 using black line cards, outline cards, letter and number cards, and differing detail cards. Increase the difficulty of the task by selecting pictures or letters which closely resemble one another.

Activity 7: Colored picture cards or black line cards or outline cards or letter and number cards/Lotto tray/card holders

Perform Activity #4, placing 2" x 2" picture cards or letter and number cards in a Lotto tray. If he is capable of identifying one card with some consistency, have the child close his eyes and cover two cards. Ask the child to open his eyes and identify both of the covered cards. Try the activity covering three cards.

Goal: Visual memory (continued)

**Activity 8: Colored picture cards/Lotto tray/
Bingo tray/card covers**

Use the Lotto tray and later the Bingo tray for playing “Concentration” games. Select three different picture cards. Use two copies of each of the three to make a total of six. Arrange one of each of the picture cards in the top row of the Lotto tray and the matching cards in the bottom row but in a different order. For example, in the top row place a pumpkin, tree, and rabbit in left to right order. In the bottom row place a tree, rabbit, and pumpkin. Have the child uncover a picture on the bottom row and, with the picture still uncovered, uncover another on the top row. If the pictures match, she can remove and keep them. The game continues until the child has matched all pictures. Rather than randomly uncovering pictures, encourage her to remember where each was located. To make the game more difficult, use the larger Bingo tray, more cards, and scatter the pairs in a random fashion rather than grouping sets in rows.

**Activity 9: Black line cards or outline cards or
differing detail cards or number and letter and
number cards/Lotto tray/Bingo tray/card covers**

Perform Activity #8 using black line, outline, and differing detail cards as well as letter and number cards.

Activity 10: Clock face trays

Use the hands on the clock face for practicing visual memory tasks. Point one or both of the hands on your clock in a certain direction. Allow the child to view it for several moments then cover it. Have him point the hands on his clock face in the same direction.

Activity 11: Large colored picture cards or colored picture cards/card covers

Show the child a colored 4" x 4" or 2" x 2" picture card. Encourage her to look closely and remember everything about it. Cover the picture with one of the black covers provided with the kit or remove the picture from the Light Box. Ask the child to name the picture she saw, then ask the child a question which will require her to recall some detail in the picture.

jacket — “Did the jacket have buttons?”

boat — “How many sails did the boat have?”

shirt — “Did the shirt have long sleeves?”

cake — “Did the cake have candles?”

doll — “What color was the doll’s dress?”

Try this task, placing two, three, or more pictures at a time on the Light Box. Let the child view the pictures, then remove

Goal: Visual memory (continued)

them all from the Light Box or cover each one. Have her answer questions concerning detail within each of the pictures.

Activity 12: Room scene/farm scene

Use one of the large scenes, such as the room or farm scene. Have the child look at the picture, studying it closely. Have him close his eyes, then use the covers provided with the kit or pieces of posterboard to cover objects within the scene (for example, the clock on the wall, doll on the shelf, etc.). Ask the child to open his eyes. Point to each of the covers and have him tell you what is underneath.

Activity 13: Room scene/farm scene/logic sequence sets

Show the child the room scene. Have her look over the picture carefully then cover it or remove it from the Light Box. Ask the child to tell you what was in the scene naming as many items as possible or asking her questions about items in the scene:

“Was there a chair in the picture?”

“What was in the window?”

“What color was the rug?”

“What was next to the refrigerator?”

Goal: Visual memory (continued)

Perform the same task using the farm scene and various cards from the logic sequence sets which show a variety of objects.

Activity 14: Logic sequence sets

Show the child one or more of the logic sequence cards depicting an activity such as opening a soft drink can, pushing a grocery cart, or drinking a glass of milk. Remove the picture(s) and ask questions about the activity occurring.

Activity 15: Colored picture cards/letter and number cards

When the child has had experience with some of the activities in the sequencing section, practice visual memory tasks which require the child to remember a sequence of two or more pictures, letters, or numbers. Show the child a sequence. Cover it and provide him with duplicates which he must arrange in the same order. To vary the task, have the child name what he saw in the proper order rather than giving him duplicates to arrange, or another option would be to give him a number of pictures or letters so he must select the correct pictures or letters as well as order them correctly.

Goal: Prewriting and handwriting

To use activity sheets, locate and print the desired page from the PDF file(s) found on the enclosed CD. Print the files on paper or transparency film appropriate for your printer. (Note: Refer to the owner's manual for your printer or copier to purchase film that is safe to use in your specific equipment.)

Activity 1: Activity sheets #1-5

Have the child complete activity sheets #1-5. These are representative of the types of activity sheets included in the Light Box Materials Level 2. If she has difficulty staying between the lines on Sheet #1 and #2 or tracing the lines on Sheets #3-5 (which makes a series of small, broken lines or marks off the line by 1/2" or more), practice these types of activities before continuing with the remaining Activity Sheets in Level 3. You may use the Activity Sheets included in Level 2 for further practice or purchase and adapt commercial materials, such as the *Dubnoff School Program I, Levels 1-3: Sequential Perceptual-Motor Exercises and The Developmental Program in Visual Perception: Beginning pictures and Patterns* by Marianne Frostig and David Horne.

Activity 2: Activity sheets #6-12

Have the child trace over geometric shapes and various outlines. Encourage him to stay on the line and draw carefully around curves and corners, pointing out the difference between these two. Identify the shape or outline he is tracing and point out corners, straight lines, curves, long and short lines.

Goal: Prewriting and handwriting (continued)

Activity 3: Activity sheets #13-22

Let the child color a variety of simple pictures after tracing all of the lines with a marker. Use activity sheets #13-22 as well as pictures from coloring books and activity booklets. Urge her to stay within the lines. Identify the pictures and their parts and discuss the appropriate colors.

Activity 4: Activity sheets #23-36

Use activity sheets #23-36 with the child having him imitate the lines shown on the sheets. First have him trace the model with a marker. Then, in the space below, draw the model. Encourage him to make the lines look as much alike as possible. Compare lengths, slopes, number and height of curves, etc. Some of the sheets show dotted lines to assist the child while others show starting and stopping points. If you wish, use the small pictures drawn on the sheets to help motivate the child. “See how the frog hops to catch the fly. Now you draw a line that shows the frog hopping up to catch the fly.”

Activity 5: Activity sheets #37-53

Dot-to-dot worksheets are provided on activity sheets #37-53. Show the student how to draw from one dot to the next. You may need to show her the order in which each dot is to be connected. Ask her if she can guess the shape or object depicted in the dot-to-dot drawing before it is complete. For

Goal: Prewriting and handwriting (continued)

additional worksheets, use dot-to-dot drawings from commercially available coloring books and activity booklets.

Activity 6: Activity sheets #54-65

Have the child copy various geometric shapes and letters. Activity sheets #54-65 show models. Beside each model, shape or outline, is a box for the child to copy the model. Some of the sheets have starting points to assist the child. Add your own starting points and additional “guidepoints” if necessary. First, have him trace the model, pointing out its special features (corners, curves, etc.). Show him how to stay inside the box using its lines as a reference for drawing the shape.

Activity 7: Activity sheets #66-83

Activity sheets #66-83 provide practice in tracing and writing letters. Have the child trace the letters. On pages which provide space for writing the letters, have her trace the letters, then copy the letter several times on the line beside the letter.

Activity 8: Activity sheets #89-93

Have the child copy various simple outlines. Activity sheets #89-93 show models. Beside each model is a box for the child to copy the model. Have him draw the model inside the box using its lines as a reference for drawing the shape.

Goal: Prewriting and handwriting (continued)

Activity 9: Activity sheets #84-88

Activity sheets #84-88 provide practice in writing short words. For the child, write out other words which have special meaning for her such as her name and other family members' names, her address, favorite foods, etc. Have her copy your words on the line beside or below them.

Goal: Sequencing

Activity 1: Colored picture cards

Select two of the 2" x 2" colored picture cards listed below for this activity which are of different colors (e.g., the kite, and the sock). Gather at least four copies of each different picture card for the activity. Place one of each different picture card side by side on the Light Box. Scatter the remaining pictures of the kite and sock below the row you have started. Have the child continue the sequence you have begun by placing the remaining cards in a row across the Light Box alternating cards in the pattern you have established. To get the child started, add two more cards to your sequence, saying "first a kite, then a sock.... Can you add more pictures in the same order?"

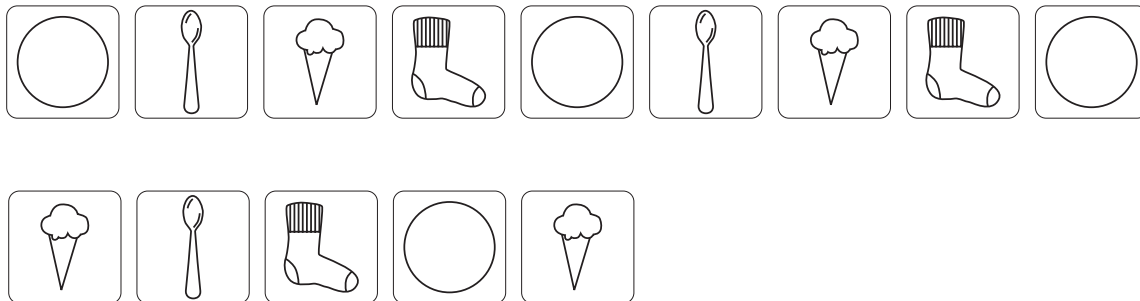
spoon	comb	hat	shirt
fork	orange	shoe	car
toothbrush	pumpkin	cake	truck
hairbrush	ball	chair	jacket
banana	dog	apple	grapes
sock	cow	cup	kite
drum	horse	book	dress
carrot	teddy bear	telephone	lamp
crayon	hot dog	wagon	

Activity 2: Colored picture cards

Select three or more of the picture cards listed in Activity #1. Perform the same task outlined in Activity #1 using three or more picture cards in a sequence. When you reach four or

Goal: Sequencing (continued)

more cards per sequence, it may be necessary for the child to complete your row and begin a new one below it.



If the child has difficulty organizing his rows, have him use the Bingo tray inserting the cards in the tray in the proper order.

Activity 3: Letter and number cards

Perform Activity #1 using letter and number cards. It will be necessary to make a few additional cards. Use a black marker and clear acetate or tracing paper.

Activity 4: Colored picture cards

Tell the child a simple story providing him with appropriate 2" x 2" colored picture cards to accompany your narrative. As you tell the story, have him put into sequence the pictures in left to right order.

For example, "Once there was a dog who liked to eat everything. In the springtime, when his neighbor planted a garden, he would sneak through the fence and eat carrots. When he was alone in the house one day he ate

a whole birthday cake, then he had an old hotdog and a bunch of grapes. Sometimes an orange would fall out of someone's grocery sack onto the driveway. He liked that. He even tried to climb the old apple tree to snack on apples in the autumn. What a funny dog!

Activity 5: Logic sequence sets

Have the child put into sequence the logic sequence sets provided with the kit. Begin with the girl and ice cream cone. Explain to her that the pictures tell a story. Have her look carefully at each picture to see what is happening or how the picture differs from the other pictures in the set. Ask the child what story would coincide with the pictures and have her arrange them in that order. As long as her story coincides with her arrangement of the pictures, the sequence is correct.

You might introduce the task by suggesting that the pictures are like snapshots. Someone took photographs as these things were happening but got them mixed up so they aren't in the right order. You might ask, "Which picture was taken first?" This approach may help the child think in terms of a timed sequence of events. Try all of the logic sequence sets with the child. The "Grocery Shopping" set will probably be most difficult. It includes the most detail and requires closer observation. If a child has difficulty ordering the pictures, remove one or two pictures to make the task easier.

Goal: Sequencing (continued)

For example, have the child put into sequence only the pictures which show the woman going into the store, shopping in the store, and checking out of the store. If necessary, help her focus on the changes occurring in the pictures:

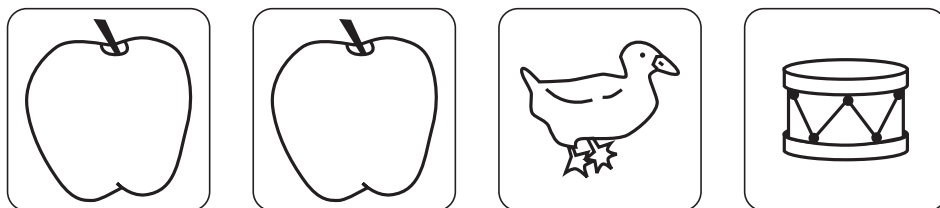
“How many things are in the shopping cart in this picture?... OK, look at the other picture.

Are there more things or fewer things in the cart?...

Which picture shows what happened first?”

Activity 6: Colored picture cards

Try more complicated sequences, having the child imitate sequences such as the following:



Goal: Sequencing (continued)

To make the activity slightly more difficult, use 2" x 2" black line cards, outline cards, or colored picture cards which are the same color. Generally, the difficulty of a sequence will be determined by the number of cards in it and the repetition of cards within a single portion of the sequence. The greater the number of cards in the sequence or repetition within the sequence, the harder the task.

Activity 7: Letter and number cards

Have the child imitate more complex sequences using the letter and number cards. She will probably enjoy the activity more if you spell out meaningful words for her to duplicate. Name each letter as you place it on the Light Box then read the word. Give the child the cards necessary to duplicate the word. If you use a word such as "hat," place a card showing the hat on the Light Box to help the child associate the word and the thing it represents. Continue increasing the length of the words he must duplicate.

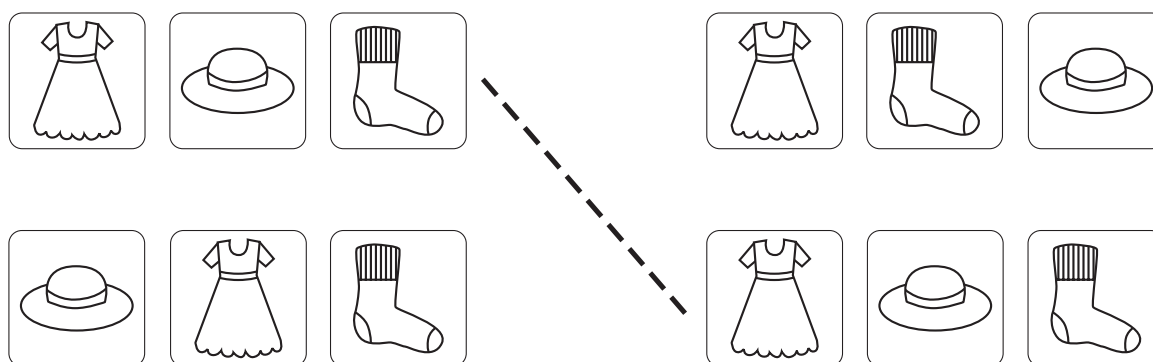
Activity 8: Letter and number cards

Use the letter and number cards and additional cards you make. Practice putting into sequence the child's name, telephone number, and other personal data. Help him read the information aloud and copy or trace the letters on a sheet of paper or acetate.

Goal: Sequencing (continued)

Activity 9: Colored picture cards/letter and number cards

Create worksheets for any of the activities listed. Use a marker on acetate, tracing paper, or typing paper or arrange 2" x 2" cards under a sheet of acetate. Have the child draw a line connecting sequences which are the same.



Have the child “fill in the blank.” Arrange a number of cards in sequence, leaving a space here and there. Give the child the missing cards (perhaps a few that do not belong in the sequence, too) and have her insert the correct cards.



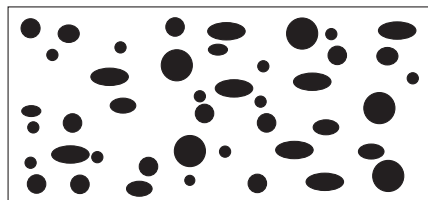
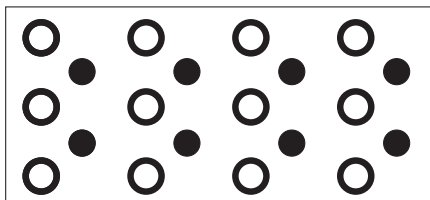
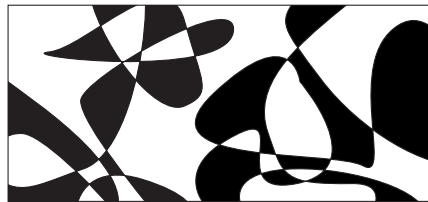
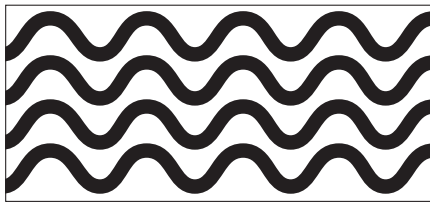
Activity 10: Letter and number cards

If the child capably puts into sequence letters to duplicate your sequences, spell out short sentences with the letter cards. Have the child duplicate the sentence below yours, leaving space between words.

Goal: Figure-ground discrimination

Activity 1:

To practice figure-ground discrimination, have the child locate objects scattered on regularly and irregularly patterned backgrounds. Use the 9.5" x 11" striped background included in the kit, patterned overlays included with the Level 1 materials, or a ground of your own making. A background can be drawn on acetate with markers or created with colored transparent adhesive film or tape, or certain types of fabric. Have the child verbally identify the picture objects, trace them with his finger or a pen, or select their matches from an array of pictures.



Examples of
backgrounds with
regular patterns

Examples of
backgrounds with
irregular patterns

Goal: Figure-ground discrimination (continued)

Activity 2: Large colored pictures/colored picture cards/figure-ground overlays

Perform figure-ground discrimination tasks using colored 4" x 4" and 2" x 2" colored picture cards placed below regularly patterned grounds, such as the 9.5" x 11" striped ground included with this kit. Have the child name the objects she sees or locate their matches among other pictures you display, or trace them with her finger or a marker.

Activity 3: Black line cards/outline cards/figure-ground overlays

Perform Activity #2 using black line and outline cards including the large 4" x 4" figure-ground outlines. How you orient the pictures will vary the difficulty of the task. Some grounds may conceal larger pictures more effectively than smaller pictures. Create your own black line cards and outlines for use in figure-ground tasks.

Activity 4: Figure-ground overlays

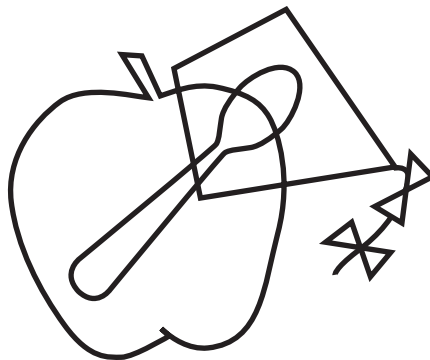
Have the child discriminate pictures placed beneath irregularly patterned grounds. Use the irregularly patterned ground supplied with the kit or create your own grounds. Again, the child may indicate he sees the pictures in several ways: tracing the hidden items, naming them, or selecting pictures that match from an array of pictures.

Activity 5: Figure-ground overlays

Draw outlines of geometric shapes with which the child is familiar on acetate or use those shapes provided in the Level 2 kit. Scatter the shapes beneath various types of grounds. Ask the child to find a specific shape, have her name all of the shapes she can find, or point out shapes that match among other cards you provide.

Activity 6: Outline cards

Layer several shapes using outlined cards (one on top of another). Have the child name and/or trace over the shapes he sees.



Activity 7: Figure-ground overlays

In place of a ground, layer the figure-ground pictures provided with the kit. Have the child verbally identify the objects pictured or traced over each with her finger or a pen.

Goal: Visual Closure

Activity 1: Large colored pictures/figure-ground overlays/three bears overlays/card covers

Use the 4" x 4" picture cards, figure-ground pictures, and the bears overlays with the child. Use the black plastic covers provided with the kit or pieces of black posterboard to cover portions of the pictures (for example, the shirt's sleeve, and earpiece on the glasses, a chair leg, Baby Bear's foot, etc.). Ask the child to look at the pictures and identify what is covered or indicate it in some other way such as pointing at the bear's other foot.

Activity 2: Large missing detail cards/2" x 2" missing detail cards

Use the large missing detail cards and 2" x 2" missing detail cards provided with the kit. Show the child each card and have him verbally identify the part which is missing or point out the part that shows the same subject.

Activity 3: Visual closure cards

Have the child look at the visual closure cards provided with the kit. There are four visual closure sets and each set contains four cards. Each of the first three cards shows the same object partially drawn. With each card, more and more lines are progressively filled in. The fourth card shows the completed line drawing of the object. To use them with the child, give her the card with the fewest lines. Explain that it is

Goal: Visual closure (continued)

a picture of an object but some of the lines are missing. Ask her if she can guess what it might be. If she is unable to identify the picture, you may show her the second card in the set. Tell the child it is a picture of the same object, but more of the lines are filled in.

Progress to the third and fourth cards in the set if necessary. Use all of the visual closure sets with the child.

To make the activity easier, provide several 2" x 2" picture cards at the bottom of the Light Box. One of the 2" x 2" cards should show the same object that is depicted in the visual closure set you are using. Instead of having the child identify the object, ask if she can determine which 2" x 2" card shows the same thing.

Another approach to help the child visually “close” the missing line segments and identify the object is to place a clear sheet of acetate over the visual closure card. Give her a marker and have her connect the line segments until she recognizes the object.

Activity 4: Activity sheets #37-53

Have the child perform a variety of dot-to-dot worksheets. Encourage him to identify the object he is drawing before it is completely drawn. You could play a game in which you give him a stack of tokens.

Goal: Visual closure (continued)

After he connects a dot, give him an opportunity to guess what the picture is. If he guesses incorrectly, take away a token from his pile. Activity sheets #37-53 provide a few dot-to-dot sheets. Commercially available coloring books and activity books provide many more.

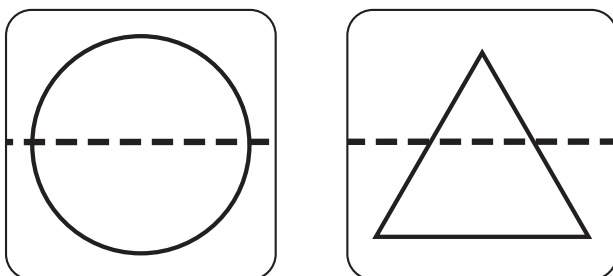
Goal: Part-whole relationships

Activity 1:

Make sure the child has had experience with part-whole tasks using concrete materials before you attempt to have her complete picture puzzles. Use the puzzles provided in the Level 1 kit, the part-whole tasks described in the Level 2 kit using parquetry pieces, or simple commercial puzzles and three dimensional construction blocks and toys which require the child to fit pieces to create a particular shape or object.

Activity 2:

Using acetate and markers, trace over various simple geometric shapes. Use both solid and outline shapes, cut them in half, and have the child fit the two pieces together again to make a whole shape. Use shapes you know the child is familiar with and tell him the pieces go together to make a certain kind of shape. You may want to provide a model of the shape or tell him what shape he should try to assemble.



Activity 3: Half-to-whole puzzles

Give the child two or three half-to-whole puzzles with obvious differences. For example, select the scuba diver, doctor, and boy. Place the top halves on the Light Box. Scramble the lower halves, place them on the Light Box, and have the child match them to the proper top halves. If she has difficulty lining up the pieces, use the puzzle jig provided with the kit.

Activity 4: Half-to-whole puzzles

Give the child half-to-whole puzzles which are more difficult to assemble and require the child to attend to detail within the picture to form a proper match. For example the tennis player and construction worker both wear blue pants. Certain matches may look right unless they are carefully examined.

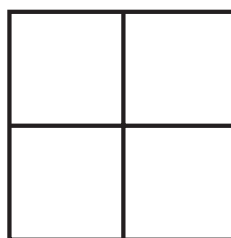
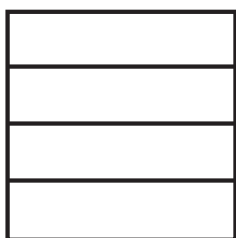
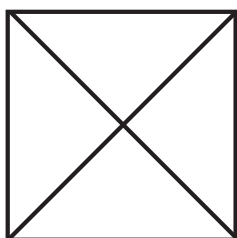
Activity 5: Half-to-whole puzzles

Spread all half-to-whole pieces on the Light Box and have the child assemble them. If necessary, he may use the puzzle jig provided with the kit to line up the pieces. This will help him check to see whether the top half and lower half meet as they should or if there are discrepancies in the lines, colors, and detailing.

Goal: Part-whole relationships (continued)

Activity 6: Four-piece puzzles

Four-piece puzzles are divided into four strips, squares, or triangles which form a larger square. Practice with the child in assembling these shapes to form squares. Use parquetry pieces provided in the Level 2 kit, or cut posterboard pieces to the dimensions shown. Using the puzzle jig provided with this kit, give the child four squares, strips, or triangles and have him “fill in” the puzzle jig. Then, give him the pieces without the jig and ask him to make a square.



Activity 7: Four-piece puzzles

Draw solid and outline geometric shapes on acetate, then cut them into several strips or quarters for the child to assemble. Choose simple shapes with which she is familiar such as circle, square, triangle. If she has difficulty assembling the shape, tell her what it is or show her a model. Show her how to use the outer edges of a solid shape or lines of an outline shape to be sure they meet when pieces are positioned next to each other.

Activity 8: Four-piece puzzles

Have the child assemble one of the colored four-piece puzzles. The clown face, doll, and tree are simple for most children. As you place the pieces on the Light Box, be careful to orient them with the glossy painted side up and place pieces so the child does not have to turn them to assemble the puzzle. If the child has difficulty aligning the pieces, use the puzzle jig provided for the four-piece puzzles.

For the tree puzzle, you may want to show the child the 2" x 2" colored picture of the Christmas tree. Explain that the pieces you have given him go together to make a tree like it. With other puzzles, encourage him to guess what the puzzle shows before he assembles it. If he has a great deal of trouble assembling the pieces, you may provide him with hints about the puzzle. For example, "It's a picture of an animal. Here's its tail."

Activity 9: Four-piece puzzles

When the child has had some practice putting together a few puzzles, spread puzzle pieces on the Light Box so the child must occasionally turn pieces to assemble the picture puzzle. Continue, however, to place all pieces with the glossy painted side up.

Goal: Part-whole relationships (continued)

Activity 10: Four-piece puzzles

Have the child assemble a black line four-piece puzzle (e.g., the spoon, or the banana). If she has difficulty, help her determine the subject of the puzzle or show her one of the pictures from the kit such as the spoon or the banana. Generally, the black line puzzles are more difficult to assemble than the colored puzzles.

Activity 11: Four-piece puzzles

Have the child assemble two puzzles whose pieces have been scrambled. Choose any of the following pairs.

Tree	House	Teddy Bear	Banana
Clown Face	Dog	Doll	Spoon

Explain to the child that the pieces on the Light Box go together to make two puzzles.

Activity 12: Four-piece puzzles

Create your own puzzles for the child to assemble or let the child help make them. Trace a picture on acetate and color it with markers, adhesive art film, or leave it uncolored. Cut the picture into various pieces. You could begin by cutting the picture into large, easy-to-assemble pieces. When the child is able to put these pieces together, cut each large piece into two or more smaller ones to increase the puzzle's difficulty.

Appendix:

**Vision Development Materials from APH
& Related Visual Tasks Chart**

VISUAL TASKS	Let's See: Vision Development Activities	Light Box Materials, Level I (Use with Light Box)
Light awareness	Light up wand / Flashlight	Colored acetate / pattern and blackout backgrounds / spinner / suggested activities
Light fixation and focus	Same as above	Same as above
Light tracking (horizontal, vertical, and circular) and scanning	Light up Wand / Flashlight with Moon Ball	Colored acetate / Spinner / Suggested activities
Object awareness	Bell Bracelet / Squeaker Ball / Foam Shapes / Gel Balls	Acrylic shapes / Threading beads / Tumblers / Suggested activities
Object fixation and focus	Same as above / Bunji Ball / Duck Puppet / Socks with Balls / Pom-poms / Moon Ball / Puppet	Same as above

Light Box Materials, Level II (Use with Light Box)	Light Box Materials, Level III (Use with Light Box)	Program to Develop Efficiency in Visual Functioning
		Section A (1-3 months)
		Same as above
		Section A (1-3 months) Section B (4-12 months)
		Section A (1-3 months)
		Same as above

VISUAL TASKS	Let's See: Vision Development Activities	Light Box Materials, Level I (Use with Light Box)
Object tracking and scanning	Puppet / Pom-pom / Squeaker Ball / Socks with Balls / Bunji Ball / Whistle Stick	Acrylic shapes / Threading beads / Tumblers / Suggested activities
Eye-hand coordination (reaching and manipulation)	Moon Ball / Quilt / Foam Shapes / Gel Balls / Pail / Squeaker Ball / Puppet / Pegboard / Snap-lock Beads / Whistle Stick / Slinky	Tracing backgrounds / Acrylic shapes / Threading beads / Tumblers / Spinner
Matching / concrete level (color, shape, size)	Foam Shapes / Rubber Balls / Blocks / Form Board / Pegboard	Templates / Acrylic shapes / Threading beads / Tumblers / Puzzle pieces / Suggested activities
Simple spatial relationships	Same as above / Pail / Gel Balls	Same as above

Light Box Materials, Level II (Use with Light Box)	Light Box Materials, Level III (Use with Light Box)	Program to Develop Efficiency in Visual Functioning
		Section B (4-12 months)
Pegs and pegboard / Cubes and template		Section B (4-12 months) Section C (1-3 years)
Pegs / Cubes / Sticks / Parquetry Pieces		Section C (1-3 years) Section D (2-4 years)
Same as above / Sticks		Section C (1-3 years)

VISUAL TASKS	Let's See: Vision Development Activities	Light Box Materials, Level I (Use with Light Box)
Matching / concrete level (detail)	Shape Deck / Foam Shapes / Form Boards / Snap-lock Beads / Pegboard	Suggested activities
Visual identification / concrete level (name, color, shape, size, object)	Foam Shapes / Shape Deck / Form Board / Quilt	Most kit materials
Simple part / whole relationships / concrete level	Pegboard / Blocks / Snap-lock Beads / Foam Shapes / Form Board / Shape Deck	Ball puzzles / Face puzzles
Matching / pictures (shapes, familiar objects)	Shape Deck / Teacher made pictures using paper, poster boards, crayons, etc.	

Light Box Materials, Level II (Use with Light Box)	Light Box Materials, Level III (Use with Light Box)	Program to Develop Efficiency in Visual Functioning
		Section C (1-3 years) Section D (2-4 years)
Pegs / Cubes / Sticks / Parquetry Pieces		Section C (1-3 years) Section D (2-4 years)
Pegs and Pegboard / Cubes and template / Parquetry pieces / Sticks		Section C (1-3 years) Section D (2-4 years)
Colored shape cards / Outline shape cards / Familiar object pictures / Stencils / Pattern guides / Activity sheets / Suggested activities	Picture cards used in game formats: card or board game, Lotto, Bingo / Activity sheets	Section D (2-4 years)

VISUAL TASKS	Let's See: Vision Development Activities	Light Box Materials, Level I (Use with Light Box)
Matching / pictures (detail)	Shape Deck / Teacher made pictures using paper, poster boards, crayons, etc.	
Visual identification / pictures (shapes, objects, detail)	Shape deck / Snap-lock Beads / Pegboard	
Part/whole relationships / more complex concrete and pictures	Blocks / Pegboard / Snap-lock Beads / Foam Shapes / Quilt with hidden object underneath / Teacher-made pictures using paper	
Prewriting, tracing, copying shapes, outlines	Paper / Crayons / Tracing foam shapes / Tracing form board with inserts	

Light Box Materials, Level II (Use with Light Box)	Light Box Materials, Level III (Use with Light Box)	Program to Develop Efficiency in Visual Functioning
Activity Sheets	Picture cards with differing detail used in game formats	Section D (2-4 years)
Colored shape cards / Outline shape cards / Familiar object pictures / Activity sheets	Picture cards with differing detail used in game formats	Section D (2-4 years) Section E (3-5 years)
Pegs and pegboard / Cubes and templates / Parquetry pieces	Picture puzzles	Section D (2-4 years) Section E (3-4 years)
Activity Sheets	Activity sheets	Section D (2-4 years) Section E (3-4 years)

VISUAL TASKS	Let's See: Vision Development Activities	Light Box Materials, Level I (Use with Light Box)
Figure-ground differentiation	Any object on quilt	
Visual closure	Any object protruding from under quilt	
Matching / figures (abstract figures, letters, numbers)	Symbols by tracer drawn on paper	
Visual identification / figures (abstract figures, letters, numbers)	Same as above	
Writing letters, numbers	Crayons and paper from kit	

Light Box Materials, Level II (Use with Light Box)	Light Box Materials, Level III (Use with Light Box)	Program to Develop Efficiency in Visual Functioning
	Large picture scenes and matching individual picture cards / Activity sheets	Section E (3-4 years)
	Picture cards / Activity sheets	Section E (3-5 years)
	Letter and Number cards used in game formats: card game, board game, lotto, bingo / Activity sheets	Section F (4-5 years) Section G (5-6 years)
	Same as above	Section G (5-6 years)
	Activity sheets	Section G (5-6 years) Section H (6-7 years)



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