

# Handbook for the Learning Window

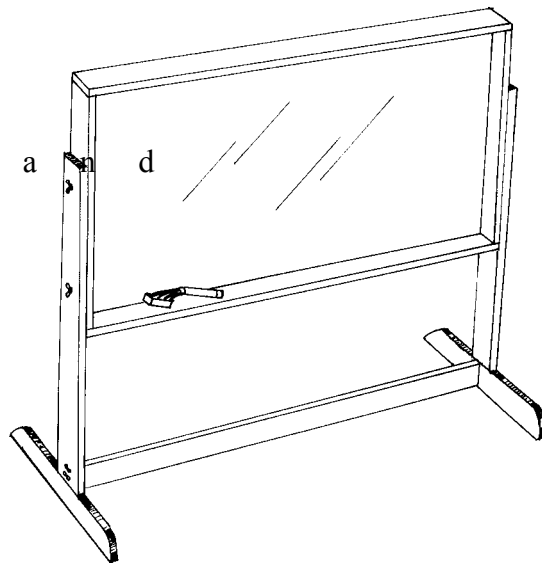
*Do you have  
terrible  
handwriting?*

*Can't  
draw?*

*Hate to work  
with pencil  
and paper?*

*The Learning Window is a direct  
solution to motor and visual-  
spatial problems.*

The Learning Window is a device used for teaching persons who have problems with handwriting, drawing, and working with pencil and paper. It is a transparent surface on which the learner traces and copies to form letters or pictures. The learner is guided through structured exercises by a teacher who may instruct from either side of the window. Through this process the individual can build a basis for comprehensive understanding of spatial relations which is the foundation for becoming a more accurate efficient writer and drawer.



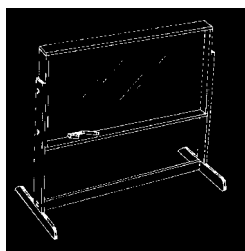
This booklet describes specific problems that can be addressed by the Learning Window and offers instructional suggestions for each type of problem. The instructional activities in this booklet are only suggestions that must be selected and modified by the teacher or clinician in a way to meet individual student needs. As you gain knowledge of the Window, let yourself create fresh and new applications that serve the needs of your students.



*The Learning Window and this Handbook  
belong to the children  
who crave boundaries, but know not spaces' measure,  
who crave markers for time, but sense not clock hands  
moving,  
who crave location, but feel no place on map or chart,  
that they may have the freedom of known limits  
in which to stretch and learn.*

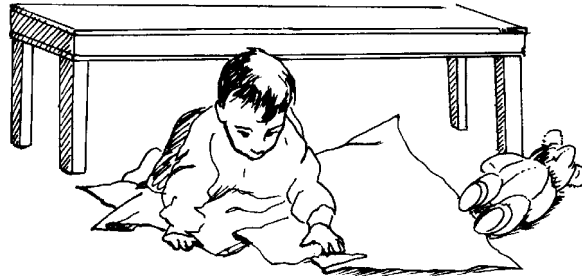
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# Why the Window Works

As children progress developmentally, move around, and experience space, they construct an inner map of their world and their position in it. They learn whether they can reach a toy or use a chair to climb onto a higher surface. They gradually become more efficient at spatial relations.

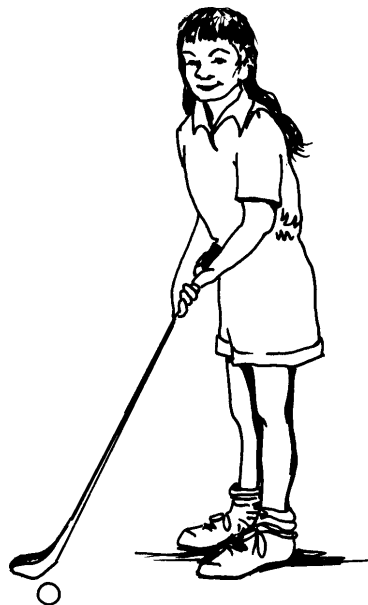


They become aware of the relationship of their bodies to earth and whether it is safe to jump down from different heights. They stop bumping into things and tripping. They learn to catch and throw a ball, ride a bicycle, and roller skate.

The normal process of developing spatial awareness involves two parallel systems:

## Motor control.

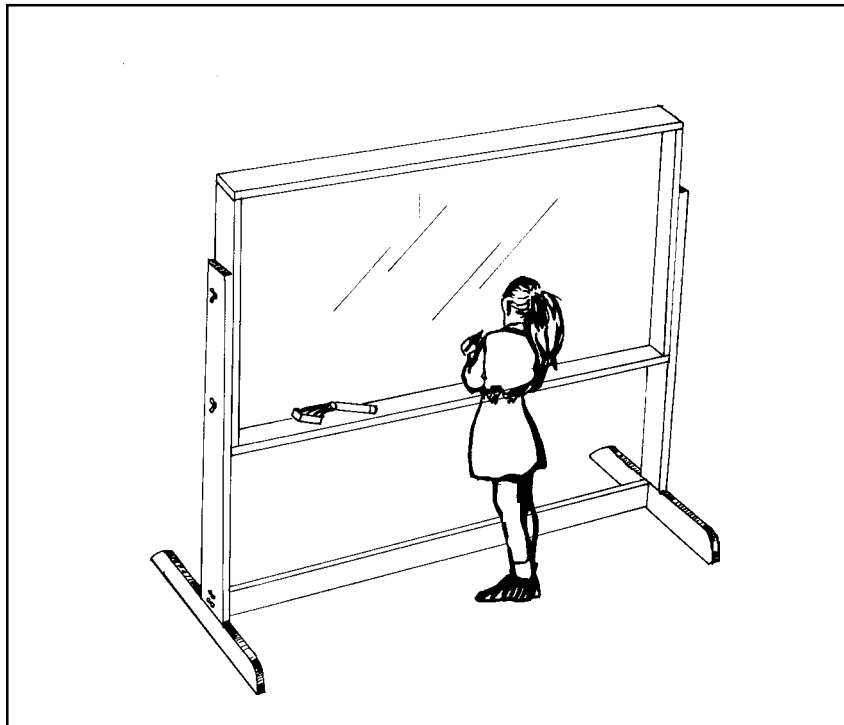
Children gradually learn to control the whole body and to integrate movement of the various parts in space. They can put their hand to their nose without poking the eye with efficient and effective body movement. They learn to control a pencil while sitting in a chair and thinking about spelling at the same time. They learn to cut with scissors while maintaining focus on the line along which they are cutting.



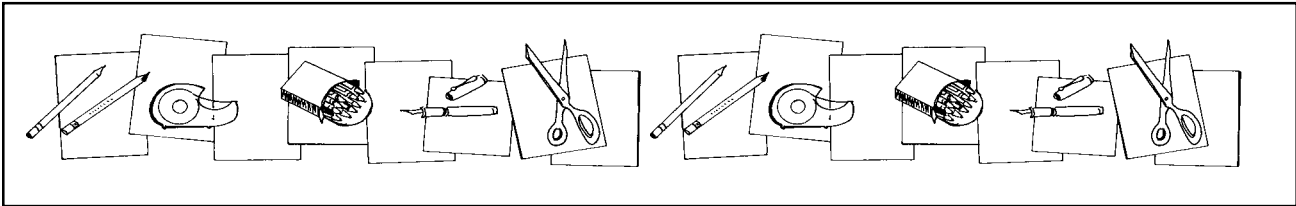
## Visual mapping.

They learn the nature of form and of boundaries in space. They learn relationships between objects in space, including clues to location and relative size. They learn to visualize how items look from above, from underneath, from the other side. They learn that items may look different, but they have not changed in form when viewed from a different perspective.

Integration of motor control with visual mapping is a key task in development. How do you recognize inadequate integration of the two systems? This is the accident-prone child, the klutz who bumps into furniture and stumbles over items everyone else avoids. It is the child who has unrealistic expectations of abilities like lifting a heavy table. Or it is the fearful child who withdraws from participation in physical events where he might get hurt. Integration of the motor and visual systems allows children to succeed as participants in many sports, academic, and social activities.



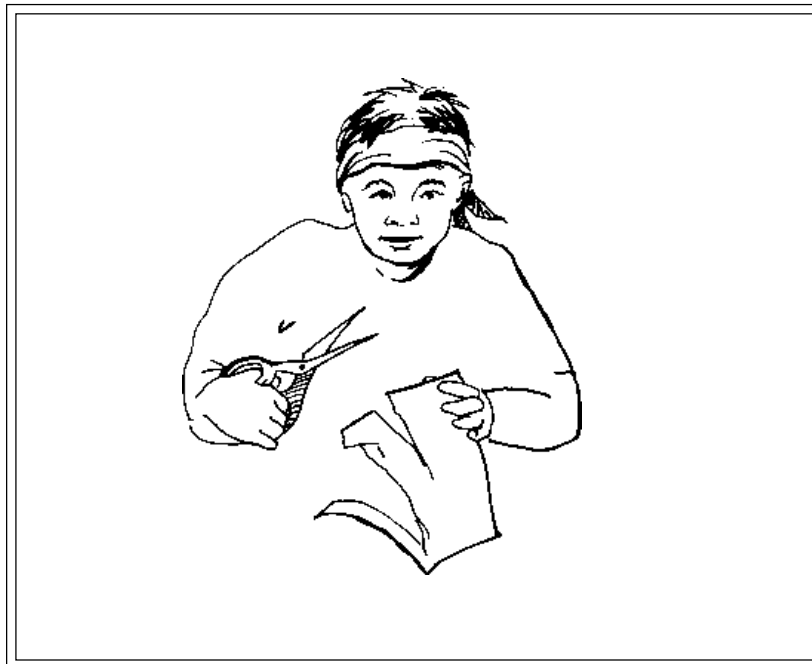
Language facilitates the integration of the motor and visual mapping systems. Children need to fully comprehend spatial words like “up,” “there,” “behind,” “parallel,” “square,” and “curve.” With the Window they learn how the spatial term feels as they draw it, not just the abstract definition of a spatial term. They learn to draw “perpendicular,” not just define it. With this deep understanding of spatial language they can more easily transfer the same spatial concepts to a variety of settings.

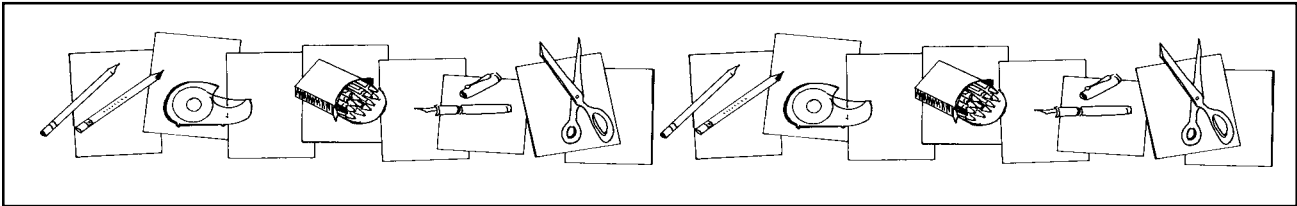


Some learners have not developed smooth and effective motor control and visual mapping. They can make up for gaps in this development through exercises with the Window. The Window is particularly effective because it requires the use of large muscles on a smooth vertical surface. It is easier to use large muscles than small fingers and there is greater control of large arm muscles in the vertical position. Also, a vertical surface is easier to use than horizontal because people are used to interacting with the world vertically, face to face.

Window exercises guide the learner to better motor control and internal mapping of spatial form and position. The teacher leads the learner through a planned progression of visual/motor/ spatial exercises. The teacher writes or draws on one side of the glass while the student tracks the teacher's pen with his own pen from the other side. The student tracks, traces, and copies the teacher's model, gradually working toward independent control of the pen.

A special issue in spatial understanding is effective functioning in the two-dimensional world of paper and pencil. In normal development children build a base for understanding and measuring space with activities in the three-dimensional world. Three-d is easier than two-d because it is the world of everyday experience. Also people have developed many systems in the 3-d world over generations to cope with heights, moving objects, relative size, and location.

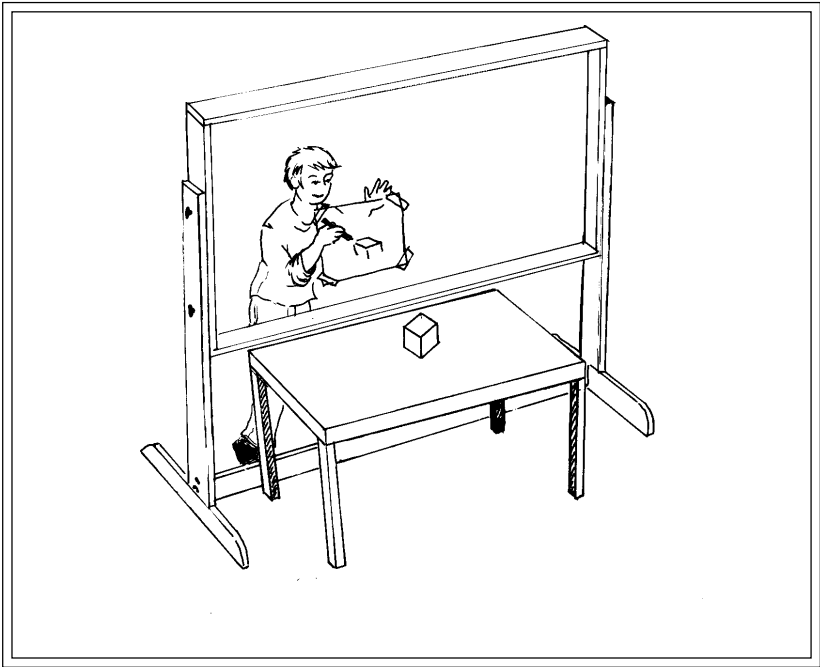




The two-dimensional world is more demanding. There are fewer cues than in three dimensions, and the learner has less practice with it. Some people do not do well at all in two dimensions. They sit in front of a blank page when asked to write. They may avoid reading. Their drawing may be scribbles. Writing, coloring, drawing, and cutting on the line are frustrating.

These learners can be led from understanding three dimensions to working effectively in two dimensions with the Learning Window. The Window allows direct transition from 3-d understanding to 2-d. The learner observes three-dimensional objects through the window and draws (traces) them on the transparent surface, thereby creating a two-d representation of a three-d object.

Learners are usually very engaged in learning with the Window because they succeed easily in building skills that were very weak. Also, the Window engages the learner with a direct hands-on approach that resembles play. Learners who avoided pencil and paper become engaged in learning that is successful and fun.



# Who Can Benefit From the Learning Window?

The Window was designed to teach writing, drawing, and other paper and pencil work to persons who have weak visual/spatial/motor skills. For whatever cause, these people may fall into one of the following groups:

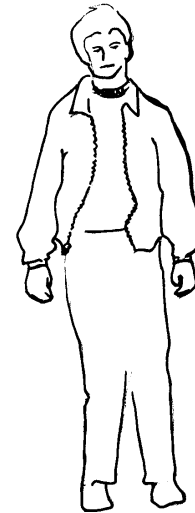
1—Children and adults who have **motor problems**. These persons lack the muscle coordination to write smoothly and accurately. They are clumsy and awkward; their writing is sloppy and meager; they tire easily with pencil and paper tasks; and they avoid writing. Their letter formation may be inconsistent. That is, they may form a given letter in a different way each time so that they do not become efficient writers.



2—Children and adults who have **visual-spatial problems**. These persons typically have trouble copying from the board or book, organizing sequences, drawing pictures, mapping, understanding quantity, applying punctuation and capitalization, understanding dimension, changing point of view, using directional language (beside, beneath, greater than), spacing letters and words, paragraphing, subtracting and doing other math operations, adapting to schedule changes, and telling time with understanding.



3—Children and adults may have **both motor problems and visual/spatial problems**. These individuals have fewer avenues through which to compensate.



## What are some of the known causes for weak visual/spatial and motor skills?

Some people are prevented from developing visual/spatial/motor skills. They may have limited opportunity to explore space due to immobilization because of illness, injury, congenital conditions, or deprivation.

Trauma before or after birth may result in this learning problem. Spatial problems seem to occur more frequently when oxygen flow is restricted, which

may happen when an individual nearly drowns or suffocates. The mother's use of alcohol or drugs during pregnancy may restrict oxygen to the developing fetus. Several congenital conditions such as Turner's Syndrome and Sphritzen's Syndrome may interfere with the normal development of spatial skills.

Just as cognitive skills vary, individuals may have weak visual/spatial/motor skills for unknown reasons. These persons need enriched guided experiences to help them develop maximum proficiency.



**Individuals ranging from pre-school to adult who have these problems can benefit from Learning Window work.**

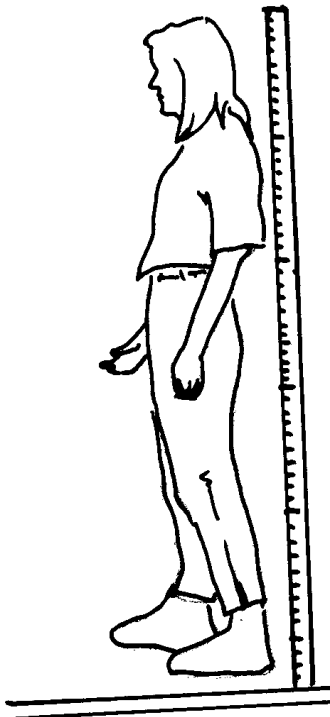
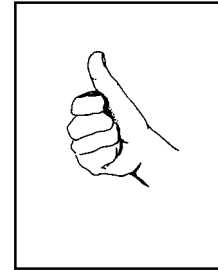
# Getting Started: Establishing Baseline Performances

Establishing baseline performances is important for many reasons. Spatial disorders are rarely tidy and neat. Instead they overlap into many performance and behavioral arenas. Therefore, carefully identifying beginning skills, behaviors, and attitudes is necessary both to plan what to teach and to monitor progress.

Evaluation should, however, be rapid and practical. The “can do-cannot do” list on the next page works very well and can be completed in minutes. The classroom teacher and parents can both complete this checklist.

The same form can be used to monitor progress. You may also wish to use the sections titled: Motor Control-Overview and Visual Perception of Space-Overview as checklists for skill evaluation.

Identifying what a student can and cannot do frequently brings instruction closer to student needs. This analysis also focuses on student strengths rather than just on disabilities.



*“I really like this simple approach to analysis. Without it I sometimes get so caught up in student disabilities and how I can meet those needs that I forget to appreciate and see how far the student has come.” Pam Taylor, teacher and parent*

# Motor Visual/Spatial Skills Analysis

Student's Name \_\_\_\_\_ Age \_\_\_\_\_ Grade \_\_\_\_\_

Describe the student and the student's problem \_\_\_\_\_

---

## Behaviors

Can Do

Can't Do

### Motor planning:

- draws accurately
- uses correct motor movement to form letters (which are problems?)
- forms letters accurately (which are problems?)
- sustains writing with energy
- writes on the line
- writes neatly
- writes with spacing
- writes willingly

### Visual/spatial:

- can find way without getting lost
- copies letters and words accurately
- sorts patterns and shapes accurately
- sequences events in time
- uses capitals and punctuation accurately
- spells accurately especially non-phonetic words
- draws accurately
- performs evenly in math, especially place value, fractions, geometry
- uses and draws maps effectively
- remembers locations and does not lose things

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# Motor Control

## Overview





This overview introduces the instructional suggestions outlined in the following section: Developing Motor Control by Using the Learning Window.

To gain greater motor control, students must acquire a specific set of behaviors. This is not an absolute sequence: learnings may overlap. The usual sequence for learning motor control:

1-learn the language of space (shape, position, motion)

2-establish tracking

3-know and connect the distinctive features of basic forms

The distinctive feature is the least input needed to identify the item. Thus the distinctive features are the essence required to convey the shape of anything whether the item is a face, letter, geometric shape, or rabbit. Thus, the distinctive feature for a face is , for the letter “e” is , for a triangle is , and for a rabbit is . The exact drawings might differ but the essential components of the distinctive feature are the same.

4-trace basic shapes and label them

5-duplicate the basic components of script and label them

6-draw or write the basic shapes and script components upon hearing the label

7-draw 3-dimensional objects

Most students can then draw shapes or objects without tracing them.

# Developing Motor Control by Using the Learning Window

## 1—Learn the language of space

Students need to know words that describe shape, position, and motion. If students do not know this language, it should be taught before proceeding to other steps. Examples:

**a-shape:** square, triangle, circle, diamond, rectangle, cube, cylinder, cone

**b-position:** above, below, beside, over, under, across, diagonal, vertical, horizontal, parallel

**c-motion:** loop, cross, dot, forward, backward

Teach words for space with illustrations and objects. Limit the number of shapes presented at one time for students who have great difficulty with this. Teach by showing shapes and naming them. Practice the language of shapes with the “Say Where” game described at the end of this section.

**For the remaining steps**, the teacher stands on one side of the Window and guides the student on the other side. Early stages involve the teacher modeling movement with and for the student. Students must always write or draw left to right. The teacher will be on the other side of the board and, therefore, must write in the opposite direction.



The teacher’s guidance includes modeling both the movement and the verbal script (words) that describes the line or shape. Each of these components is equally important. Modeling the movement helps the student who has insufficient motor control learn the motion. Modeling descriptive language (“I go up and around.”) helps students develop scripts for guiding their pen as they make a loop independently. Students need to develop their own descriptive language for the motions. This becomes their script.

## 2. Learn tracking

a-The student can follow a pen on the other side of the Learning Window to make:

- relatively straight lines
- gentle curves
- more complicated lines

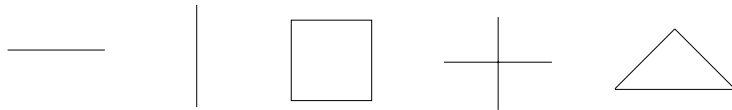
Record of Progress

b-The student can draw lines above/below previous lines.

**3-Know and connect the distinctive features of basic forms:**

a-The student can connect dots that form lines.

b-The student can connect dots that form shapes.



**4-Trace basic shapes and label them.**

a-trace solid shapes



*“flat line, up line, square, cross, triangle, slanty line”*

b. draw these shapes

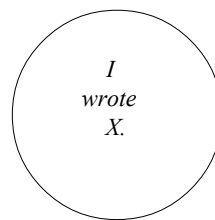
**5-Given a written x, say the script and write the x.**

*Two slanty lines cross.  
An “x”*

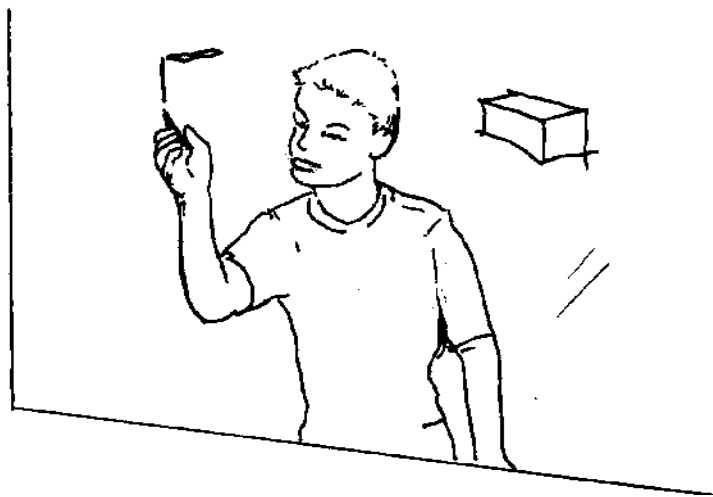


**6-Hearing a letter named, say the script and write the letter.**

Example: The teacher says “X” and the student responds: *“Two slanty lines cross.”*



**7-Trace and then draw 3-dimensional forms upon hearing the label or description such as “Draw a cylinder” or “draw a can of corn.”**

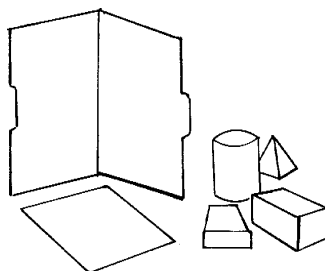


## *“Say Where”*

*A game that teaches the vocabulary of direction and position*

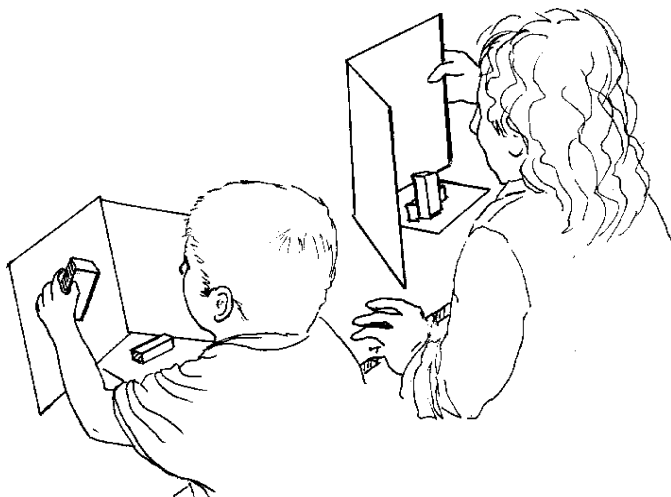
Each player has the same items:

- A folder
- Blocks
- A square or rectangle of paper to be used as a base sheet



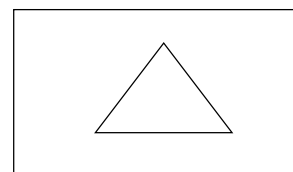
Rules: One person is “It”. “It” gives directions while placing the game pieces on his base sheet. For example, “I am placing my small red square on the center of the blue square.” All players try to follow these oral instructions with their own base sheets and game pieces while their moves are hidden behind their folders as a screen. At the end of the “turn”, “It” removes his folder and everyone compares block arrangements.

If the leader gives unclear instructions, the other players will quickly demand greater clarity of word choice. Players’ understanding of the words they hear will be apparent in how they place their blocks. They will self-correct as play continues.



Variations:

- The number of players can range from two to a classroom. Teams of two or three players can work together to place the blocks. Their discussion of choices help them build firmer understanding of the oral directions.
- The number of blocks can vary from one to many. However, each player must have identical blocks. Starting with a single rectangular block helps players build common meanings for “top,” “flat,” “up,” and so on.
- A line, square, circle, triangle may be drawn on the base sheet so that players must consider this in their block placements.



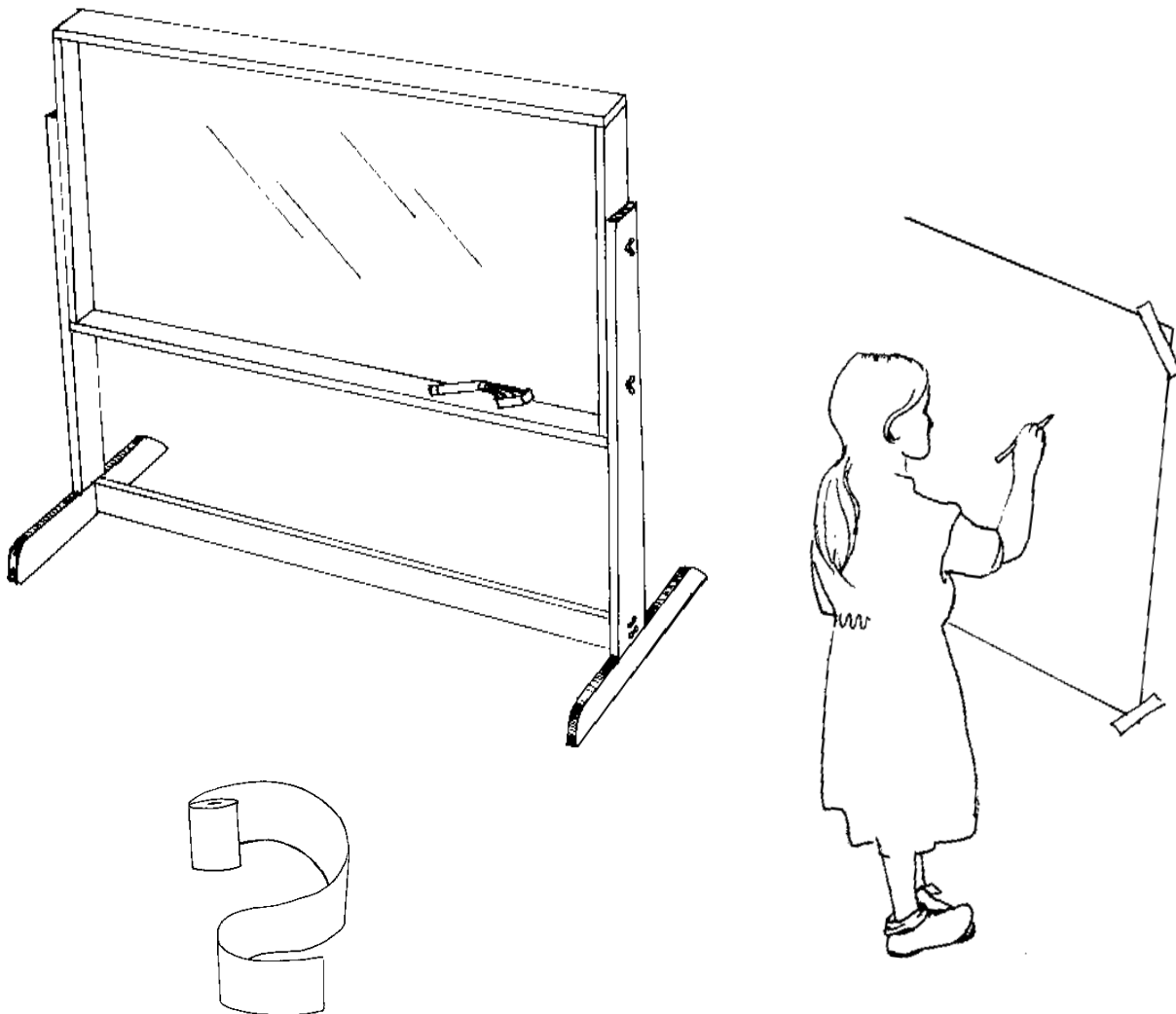
- Objects such as a pencil, marble or ruler may be included and placed according to oral instructions by “It”.
- Selected words such as “horizontal” or “diagonal” may be required language for a game. Eventually left, right, east, west, north and south can be included.

The game is fast moving!

## Transferring Skill From Window to Paper

Transferring control from the vertical board to writing flat on the desk with pencil on paper is easy for most children while others need more guidance.

- The majority of students will be able to transfer without any special provision after initial Learning Window work.
- A few children who have very depressed fine motor skills need to draw and write on paper that is tacked up in the vertical position before they can transfer to the flat desk.
- Some children need to write and draw on adding machine tape as an intermediate step before transfer to paper. The paper tape provides size limits and strong horizontal emphasis. Many therapists close each session with exercises on paper tape which they save as a record of progress. This documents the improvement from each session.

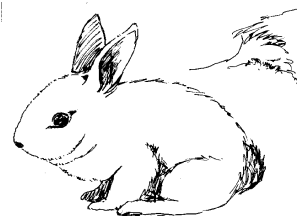


# Visual Perception of Space

## Overview

Visual spatial control is essential for understanding invariance of the meaning of shape across changes in size, position, and location. For example, the letter T is a T no matter what the size, the placement on the page, or the elegance of the script. A cup is a cup no matter where it is located or from what perspective it is viewed. This understanding of the invariance of the meaning of shape underlies the stability of letters (especially k,x,b,d) and words in reading and spelling.

The understanding of relative position underlies the comprehension of place value and mapping.



“I believe I am 3 hops from my hole.”

Students undertake a variety of exercises to learn visual perception of space. They acquire a sequence of understandings. This is not an absolute sequence: learnings may overlap. The usual sequence for learning visual-spatial control:

1-understanding of shape

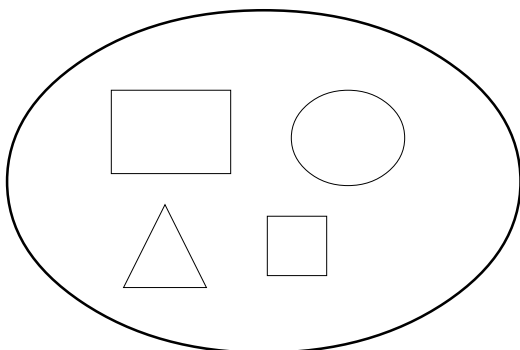
2-understanding of position

3-understanding of print spacing

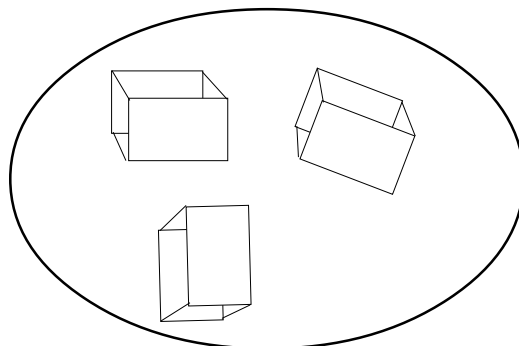
4-understanding of mapping

# Developing Visual-Spatial Control Using the Learning Window

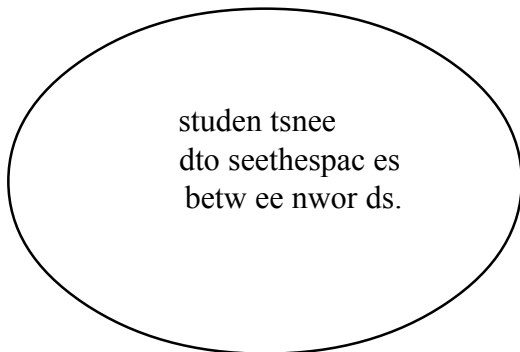
Four categories of visual-spatial exercises are presented on the following pages to foster understanding of shape, position, spacing of print and mapping. They are:



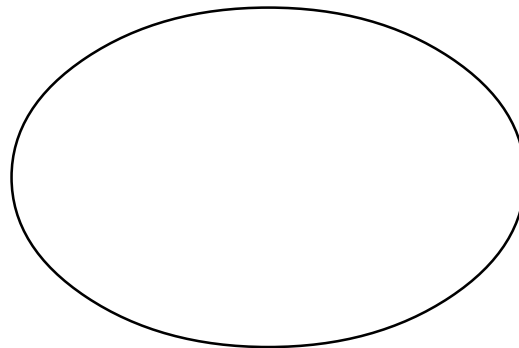
Shape



Position



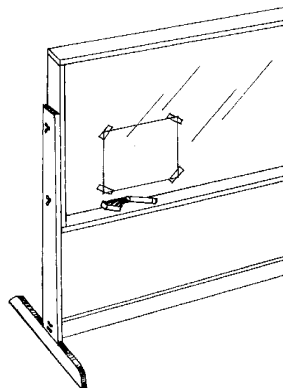
Spacing of print

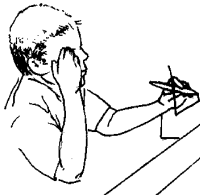


Mapping

## Recording work at the window

A printed copy of the learner's work at the window can be made by drawing on a transparency. The transparency is taped to the window and the student draws on it. Then the transparency is removed and copied on a copy machine creating a permanent record of the drawing.





Sometimes tracing activities require the student to close or cover one eye so that he is not seeing a double image. The student is sitting or standing on one side of the Learning Window. Some learners cannot trace a 3-d object as a first step. For them the item to trace may be drawn on plastic transparency film and placed against the other side of the Window or drawn directly on the Window by the teacher. The learner then traces this 2-d item.

## 1. Develop Understanding of Shape

a-The student can trace flat shapes placed or drawn on the board.

Circle

Box and rectangle

Triangle

Odd shapes

Tree (Opposing diagonal lines are difficult to draw.)

b-The student can trace 3-dimensional objects placed on a table or stool behind the board.

**Stage 1**—Trace objects

ball

box

cylinder

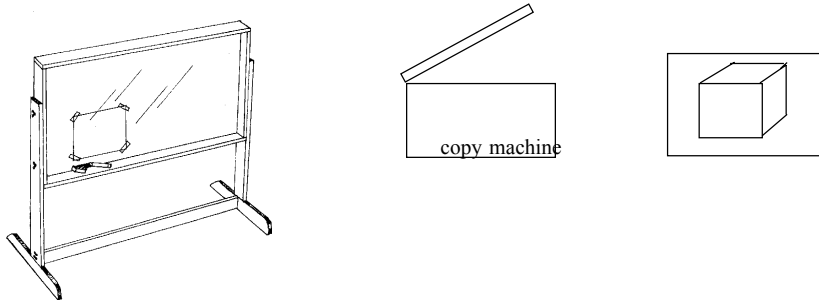
cone

3-dimensional letters

(made from pipe cleaners or plastic.)

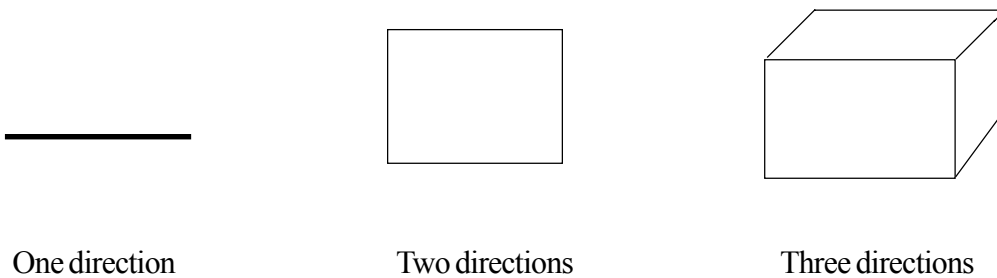
Record of  
Progress

**Stage 2**—Trace a box onto a plastic transparency film taped to the Learning Window. Copy the drawing on a copy machine. The student colors each side of the drawn box with different color. Compare the drawing to the box. Discuss the appearance including the sizes and angles.

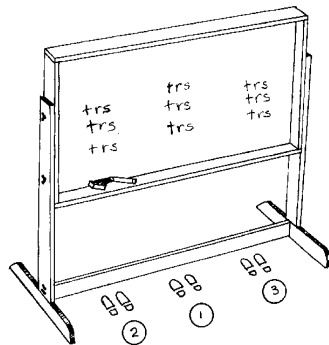


Record of Progress

**Stage 3**—Trace items that represent one, two, and three dimensions/directions (a string, a square of paper, and a box). Count the directions used for each drawing. Discuss the differences among inches, square inches and cubic inches.



**Stage 4**—Trace letters and numerals in various positions behind the window. These letters can be plastic refrigerator letters or made from pliable material such as pipe cleaners. First 3 or 4 letters to be traced are directly in front of the student, although at different heights. Next the letters are moved to the right and to the left and again traced. Finally, the letters remain in one position while the student moves a step or two to the side and traces them. Discussion with the student emphasizes the discovery of **invariance of item and label** when the letter is viewed from different positions and therefore appears slightly different.



Practice letter shape and position with “Hands up, Hands down, Fist” game shown on the next page.

# “Hands Up, Hands Down, Fist!”

A game which reinforces memory for letter shape and position by motor movement

The players’ hand positions illustrate the placement of letters as on the line, hanging below the line, or rising above the line.

**Rules:** “It” is the leader who calls out letters. The leader’s hand positions illustrate the letters as

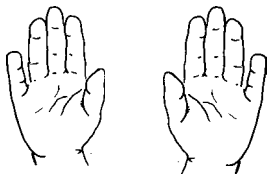
each one is called. The leader may make hand movements with the players or slightly after them to allow the players opportunity to respond. Players may be an entire class or one or two students plus the leader.

Change the player who is “It” frequently.

Use this game for brief five or six minute periods as a warm-up exercise.

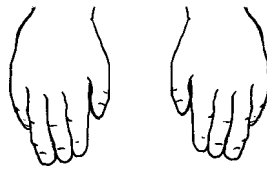
## Hands Up

b      d      f      h  
k      l      t



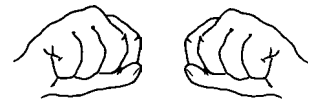
## Hands Down

g      j      p  
q      y



## Fist

a      c      e      i  
m      n      o      r  
s      u      v      w  
x      z



a      g      t      u      o      j



## 2. Develop understanding of position

Students gain understanding of position by tracing objects at, above and below eye level.

a–The teacher places a box behind the Learning Window so that three sides are visible. Trace on the window. (This is a familiar exercise used in a new way.)

Leave the box in the same position but move the student a step or two over to one side. Trace the box again.

Compare the drawings. Decide how they are different.

Move the box to a new position. Repeat the process.

Repeat with various objects until the student anticipates visual differences.

Repeat the exercises using 2 or 3 boxes overlapping one another.

**Construction** exercises are helpful at this stage. The function of these exercises is to teach the student how to make specific 3-dimensional shapes from 2-dimensional paper. The process helps the student create firmer images for different objects and how each one looks from different angles. The method of construction needs to be simple so that the emphasis can be on the discovery of form. Use large-scale graph paper. Model each shape.

box, circle, arc, cone, triangle, pyramid.



b-The teacher holds a flat cylinder, such as tuna-fish can, for the student to view through the window and trace.

Trace far below eye level.  
 Move up a few inches and draw again. Repeat.  
 Be sure to trace at eye level of the student.  
 Continue the drawings above eye level.

Discuss and compare the drawings.  
 How do they change as the can moves from below eye level to eye level and then above eye level?



Record of Progress

c-The teacher chooses another shape such as a box. Predict with the student what will happen as the object moves from one point-of-view to another. Carry out Window tracing exercises to check on the predictions.

Examine another object. Predict the appearance in various positions. Draw without tracing or seeing the object in the various positions. Check the drawings and the predictions by holding the object in the various positions and comparing to the drawings and descriptions.

The student finds magazine pictures that illustrate objects which are at the eye level of the viewers, above their eye level and below their eye level. Discuss the viewpoints.

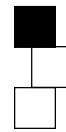
### 3. Develop understanding of print spacing

These exercises are designed for the student for whom directional confusion and difficulty perceiving word patterns interferes with reading and writing print.

Students build greater control of vertical and horizontal space as a base for understanding how letters are grouped into words and words into paragraphs and paragraphs into the entire structure of a document, as well as how punctuation and capitalization represent space and emphasis.

Children must be able to see and create pattern if they are to perceive the patterns of letters forming words with spaces in between. A first step is to make and copy block patterns.

a-The teacher models and the students construct vertical block patterns using dark and light blocks. Vertical patterns usually involve less directional confusion than horizontal patterns. Hence this step is first.



The students trace or draw the block constructions on the Learning Window. They shade in the dark blocks.

Students build and draw a variety of these patterns using 3 to 7 blocks.



They draw the block constructions onto the Learning Window until they can accurately identify the dark and light patterns and draw them without tracing.

Record of Progress

b-The teacher models and the students construct horizontal block patterns using dark and light blocks. Repeat the steps from the vertical block constructions.



c-The teacher draws several block pattern series on adding machine tape.



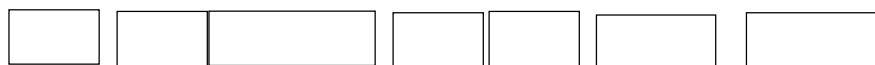
The teacher “reads” the pattern. (“black, black, white, white, black, white, white, black”) The student reads several patterns.

d-The teacher writes sentences (which describe a picture) on adding machine tape.



Together teacher and student draw around each word. This duplicates the appearance of blocks and thus makes the transfer from the previous activity.

Cut blocks apart. Reassemble. The teacher can do the cutting if the student is unable to cut accurately. They can work together on rebuilding the sentences. The student can see that letters form words with spaces between words.



The student dictates sentences (describing a picture) on adding machine tape. The student then draws blocks around the words. Cut apart. Reassemble.

Many students will need only part of this series of exercises until they are able to “see” sentence patterns including the difference in word shapes within the sentences.

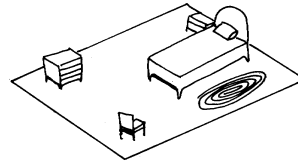
## 4. Develop understanding of mapping

Students need to understand that boundaries exist and to relate the boundaries to their position on maps or diagrams. Mapping involves creating an image for an environment and positioning one's self within it. Many students with spatial disorders need to orient themselves in concrete environments to build their sense of place and position. Then they can transfer this understanding to create and use maps.

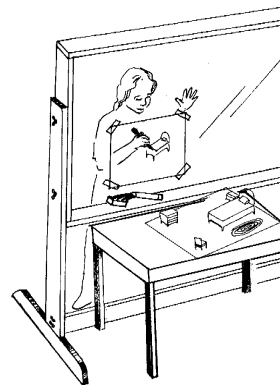
Usually students have an easier time visualizing a familiar environment which they can see from a single position such as their bedroom or classroom. The next most difficult task is imaging and drawing a large region such as their home or school. This is a big step since they must "move around" within the image because all sections cannot be seen from a single spot

a—Make a model of the child's bedroom by arranging doll house furniture on a sheet of paper that represents the floor. (Some children can substitute blocks for the furniture; others require the literal items.)

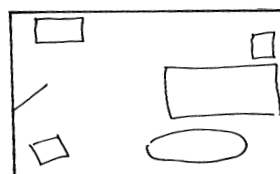
Discuss the model with the students while moving a small figure around the room. (The figure can be made from pipe cleaners or a clothespin.)  
Where is the door? Where is the window?



Trace the doll house furniture model onto a transparency taped to the Learning Window. Remove the 3-dimensional model. Ask the same questions of the drawing. ("Where is the door?") This building and drawing process may need to be repeated several times before a student can draw views of a room from an overhead perspective.

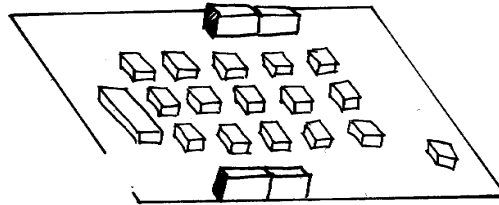


Students next draw an overhead view of their room on paper. Typically a child cannot draw a room from another point-of-view until approximately age 11. (See Wadsworth) This will indicate whether the image is firm, accurate and can be transferred.



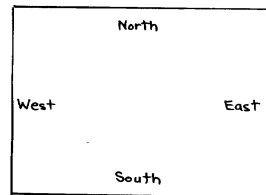
Record of Progress

b—Make a model of the classroom by arranging blocks on a sheet of paper representing the floor. Repeat the steps from the bedroom mapping procedure.

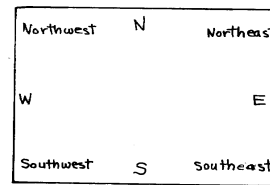


c—Move gradually into mapping larger and more complex areas—playground, bus route, town.

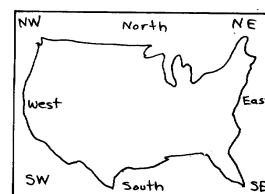
d—Play the “Say Where” game but add one rule: Mark the base sheet with north, south, east and west and use these words in the directions. (“Move the red block west of the yellow cylinder.”)



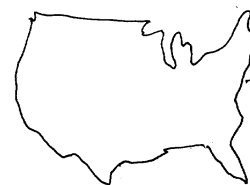
Add northwest, northeast, southwest, and southeast to the base sheet.



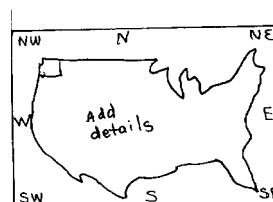
e—Transfer the direction words to an outline of the United States on the base sheet. Students are now ready to: “Find the east coast.” “Put your finger on southern states.”



Put the base sheet on a table behind the Learning Window. Place a coil of clay on the U.S. border to create a third dimension. Have the Learner trace the shape of the boundary on a transparency attached to the Window. Copy the transparency.



Next, move on to a more detailed map of the United States. Students are now ready to “Find New York on the east coast.” “Find the state in the northwest corner of the country.” This game can continue for many weeks.



# Drawing

Young children in the process of developing visual/spatial and motor skills can be helped by activities that emphasize perception of spatial relationships and coordination with motor skills.

Most children will gradually develop control of the writing instrument and the ability to produce the full range of lines, loops, circles and dots that later comprise drawings and writing. For these children the Learning Window is simply another surface to enjoy and on which to practice. Control tends to be easier to acquire because the Window is smooth and vertical, while allowing a full range of large muscle motion.

Many children are delayed or disabled in motor abilities or perceptual abilities or both. The Learning Window provides opportunities for rehearsing basic skills and for learning compensatory approaches to understanding and skill building.

Keep in mind the natural progression in children's drawing and nurture this development. Also, do not expect children to draw beyond their maturity level. Children go through progressive and predictable stages evident in their art.

## Overview of Early Drawing Stages:

### 1-Manipulative or Scribbling Stage-18 months to kindergarten

Childrens' first marks reflect their motor control and the degree of motion possible to them. Gradually the scribbles become more controlled. Later the child names the scribbles to represent objects.

### 2-Representational or Symbol Stage-Primary grades

Children intentionally represent objects with their drawings. They name the forms they produce and develop more specific features for their symbols.

### 3-Social awareness or beginning realism-Upper elementary grades

Children develop personal methods for representing form which can become a visual shorthand or cliché such as stick figures and other stereotypic drawings. Many children need encouragement and practice to move to a more complex representation of form.

An extensive description of these stages can be found in the writings of Viktor Lowenfeld, Charles D. Gaitskell, and Rhoda Kellogg. No stage is ever left completely behind. For example, the adult who is given unfamiliar art supplies will begin investigating them by scribbling.



# Development of Scribbling and Drawing

The young child gradually produces a wide variety of marks that evolve into predictable form. These lines are the building blocks from which future drawing and writing emerge.

Children demonstrate these scribbles in a various sequences and patterns, not in any fixed order. However most children can produce these 20 scribbles by age 3. The Learning Window is used as a tool to learn the scribble that the child is unable to form.

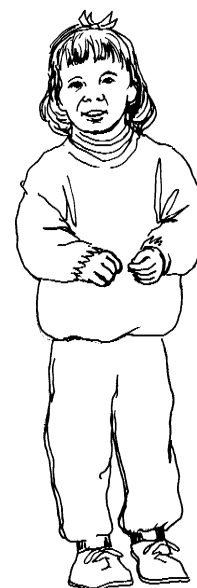
\*Inventory of the twenty basic scribbles produced by the young child:

- | Record of Progress           |
|------------------------------|
| 1. Single vertical line      |
| 2. Multiple vertical lines   |
| 3. Single horizontal line    |
| 4. Multiple horizontal lines |
| 5. Single diagonal line      |
| 6. Multiple diagonal lines   |
| 7. Single curved line        |
| 8. Multiple curved lines     |
| 9. Dots                      |
| 10. Roving open lines        |

- | Record of Progress            |
|-------------------------------|
| 11. Roving enclosing line     |
| 12. Zigzag or waving line     |
| 13. Single loop line          |
| 14. Multiple loop line        |
| 15. Spiral line               |
| 16. Multiple overlaid circles |
| 17. Multiple line circles     |
| 18. Circular line spread out  |
| 19. Single crossed circle     |
| 20. Imperfect circle          |

*\*Adapted from Rhoda Kellogg Analyzing Children's Art page 15*

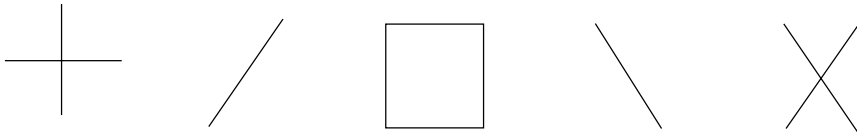
Initial analysis for young children needs to include general observation of motor control, enjoyment or avoidance of drawing as well as appraisal of the type of marks (scribbles) produced. Certainly children demonstrate large individual differences within the normal range. Guided exercises are for the child who is significantly delayed, produces few types of scribble, or who avoids fine motor activities.



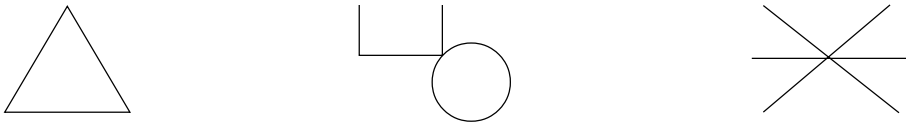
# Development of Design Copying

Drawing of older children also develops in a sequence that is the same for most individuals. Based on work by Beery and Buktenica, we know that children develop the ability to copy key designs at predictable ages:

**Age 4:**



**Age 5:**



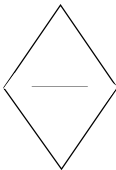
**Age 6:**



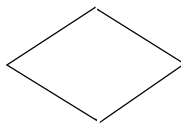
**Age 7:**



**Age 8:**



**Age 10:**



Record of  
Progress

Instructors should base their instructional goals on age appropriate expectations. Also, learning disabled children may lag significantly in their drawing development.

# Drawing With The Learning Window

Typically children who have the least control also do not enjoy drawing, coloring, and writing. Hence they do not develop compensatory routes for control.

The Learning Window is a successful tool with young children:

- It allows for use and development of both large and small muscles.
- The hands-on activities engage children with a fun game-like approach.
- The visual demands are within the capability of young children. The Window brings visual/spatial/motor activities to the level of the young child who can start working at any point of understanding and progress at any speed and to any level of capability.
- The Learning Window allows children to have a personal guide on the other side of the board to guide exercises which build control.
- The Window's generous scale permits full, large muscle movement which is easy and natural for most children.
- The vertical surface means the child is drawing at the angle he can best control.
- Finally, the transparent Learning Window enables the teacher to strategically position objects in various locations (above, below, right, left) for student to trace and draw.

These features make the Window both physically compatible with young children developing greater drawing control and effective in helping them to understand how objects "look" in space.



The basic motor activities such as tracking detailed earlier in the book should be taught as needed along with these activities.

# Images Support Drawing— Language Supports Images

Talk from the teacher and selftalk from the child is powerful support for children as they draw. Language can both guide movement and generate an image. Imagery, in turn, stimulates and guides drawing. Imagery links the inner and outer worlds of the child.

Therefore remedial instruction on the Learning Window needs to incorporate both imagery and language.

The teacher can say the high imagery sentence in the first column to encourage the child to draw the scribble in the second column. The teacher may also draw the images if modeling is needed.

### Teacher says:

- “I am drawing one finger.”
- “Grass, grass, grass. Let’s make grass!”
- “Now my finger is flat.”
- “The wind blew all our grass sideways.”
- “Look, my line is the side of a hill. ...and the other side.”
- “It is raining and the wind is blowing the rain.”
- “I made a smile.”
- “I made many smiles.”
- “Freckles.”
- “I am dizzy and walking all over.”
- “I am walking all over and around and around puddles.”
- “Up and down and up and down and up and...”
- “I am a plane going up and around—swoop!”
- “I am flying up and around and up and around...”
- “I am tickling a snail by walking around his shell.”
- “I am digging a hole by going around and around.”
- “I am making a path around a puddle.”
- “My pen is making crazy bike circles.”
- “I am making a head. The hair can stick out.”
- “Careful. Careful. I am making a ring.”

### Child draws:

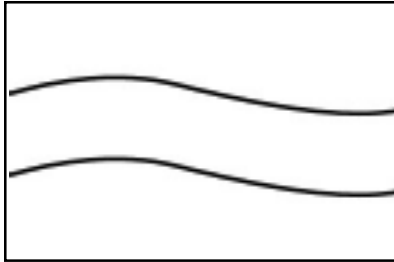
1. Single vertical line
2. Multiple vertical lines
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Record of  
Progress

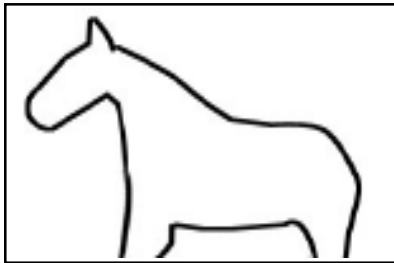
# Shared Drawing Experiences

If the child is reluctant to do exercises, various shared drawing experiences on the Learning Window can accomplish the same objectives. The teacher's approach needs to move the child naturally into action but in a relaxed manner. Avoid apologies such as "I can't draw." Plan the exercise as a tool for skill development, but allow the child to make choices and to remain in control of the drawing. Each exercise is designed to produce rhythmic continuous strokes.

"Let's make a river together"



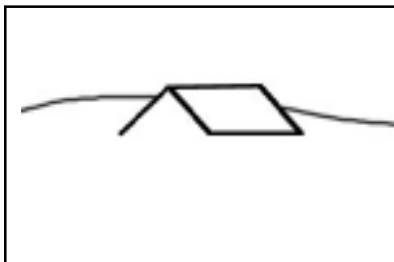
"I will draw the horse. You draw the mane."



"Let's make lots of rain."



"Let's finish the house."



Record of Progress

These exercises are steps to help the child gain sufficient motor control and visual-spatial abilities to venture into drawing and painting. They are not a substitute for the child's free expression.

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ARK publications are works in process. Readers are invited to add their ideas. Request copies of this handbook or address comments to:

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**\*\*Note:** A 15 minute video is now available showing the Learning Window in use. This video is available (\$8.50 plus shipping) through the ARK Foundation.