Helping Children Learn Through Sensory Integration

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Components Related to Sensory and Motor Learning and Behavior

The basic sensory and motor components which influence learning and behavior are defined and described in this section. These components, in alphabetical order, are:

- Auditory Processing
- Body Awareness
- Coordinating Body Sides
- Fine Motor Control
- Motor Planning
- Ocular Control
- Perception of Movement
- Perception of Touch
- Visual-Spatial Perception

Through an understanding of the significance of these sensory and motor components a teacher will be better able to recognize factors which may be promoting success or causing failure in the classroom.

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Auditory Processing

Auditory processing is the perception of and ability to understand what is heard in the environment. This involves more than the sense of hearing. Understanding auditory information requires processes such as the ability to discriminate between sounds, to associate and decode sounds, and to remember what is heard.

Auditory processing plays an important role in a child's classroom performance. A child that experiences difficulty processing what is heard may at times appear confused or inattentive. He may haphazardly rush into a task and may take a long time to respond to directions and complete tasks. He may not be able to sufficiently block out competing background noise. Remembering and sequencing multiple step directions may require added concentration and effort. Good auditory processing is an important foundation for development of language.

Processing auditory information is believed to begin before birth and to continue throughout life. Long before a child can attach meaning to the spoken word or talk, auditory processing has begun. A young infant will give a response to a sudden loud noise or to his mother's voice, although he can only interpret these sounds as threatening or pleasurable. As the child matures, he interprets a variety of sounds and words and learns to respond appropriately. His response becomes more selective and he learns to block out irrelevant sounds around him. The twelve-month-old child understands much of what is said and heard. Songs, rhymes, storytelling. and listening and response games stimulate auditory processing and language comprehension in normal development.

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Body Awareness

Awareness of one's body comes from sensations from muscles and joints. Receptors located in the muscles and joints tell the brain when and how the muscles are contracting or stretching and when and how the joints are bending, extending, or being pulled and compressed. This information enables the brain to know where each part of the body is and how it is moving through space without looking.

The muscles, joints, and brain provide each other with vital sensory information to make spatial and temporal adjustments possible in movement. Integration of this information enables the child to execute gross and fine motor activities that require subtle variations in posture, strength, force, and dexterity. A child with poor awareness of body parts tends to rely on visual information and may not be able to move properly if he cannot see where his arms and legs are. Without this visual information, he may fall out of his seat. He may have a vague awareness of his position in space and have a difficult time getting dressed or into and out of a car.

A child with poor body awareness may have difficulty knowing where his body is in relation to objects. He frequently breaks toys because he does not know how much pressure he is exerting when putting things together or pulling things apart. He may have poor fine motor control because he cannot accurately feel where or how his arm, forearm, hand, or fingers are moving and does not have precise information about the tool in his hand. He typically presses too hard or too softly with a pencil. A child with a problem in this area may appear sloppy, clumsy, or have disorganized personal belongings.

Information regarding body awareness is provided to the brain when muscles and joints are working against gravity or resistance. This occurs normally in development when a child crawls, climbs, lifts, and carries heavy objects or pushes and pulls objects such as push toys and wagons with resistance.

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Coordinating Body Sides

The ability to coordinate the right and left sides of the body and to cross the midline of the body is an indication that both sides of the brain are working well together and sharing information efficiently. Coordination of the two body sides is an important foundation for the development of many gross and fine motor skills. It is essential to the development of cerebral specialization for skilled use of a dominant hand.

A child with poor coordination of the two body sides may adjust his body to avoid crossing the midline. He may not be able to coordinate one hand to move while the other hand is acting as an assist to stabilize the project. He may switch hands during a fine motor task because he is experiencing frustration with skillfully using his hands together.

Good coordination of the two body sides is an important foundation for writing with pencils and cutting with scissors. The ability to coordinate the two body sides is first observed when a baby transfers objects from one hand to another, bangs two blocks together or imitates pat-a-cake. Children learn to coordinate their body sides when they manipulate toys such as pop beads and leggos, and when they skip, gallop, play rhythm games, jump rope, or ride a bike.

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Fine Motor Control

Fine motor control is the ability to precisely utilize one's hands and fingers in a skilled activity. Good fine motor skill stems from solid sensory and motor foundations. For good fine motor control, it is important to have muscle and joint stability, especially in the neck, trunk, and upper extremities. One's eye muscles must work in a coordinated manner to quickly localize and track objects in the environment and smoothly guide the hand. Subconscious awareness of where and how hands and fingers are moving in space, accurate tactile discrimination and hand strength aid in the control of objects of various sizes, weights, shapes, and textures. The ability to accurately judge the visual spatial relationship of objects is essential for the precision required in fine motor control. The ability to motor plan, that is, organize and carry out a sequence of unfamiliar motor tasks, is involved in many fine motor activities. Coordination of the two sides of the body is essential to fine motor coordination and the development of hand dominance.

Hand use developmentally precedes tool use. Through a progression of hand movements the child gradually acquires the precision needed for fine motor skill with tools. The following is a brief overview of the significance and development of hand control.

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GROSS GRASP

The progression of early grasp patterns begins with the use of the whole hand from a raking approach to a palmar grasp which uses the fingers to press the object against the palm. The thumb then becomes incorporated into the grasp pattern.

The whole hand is used to "hang on" to the object without isolating the use of various fingers. Strength of grasp becomes a critical factor as the infant becomes mobile. A secure grasp is part of the foundation for pulling up to the standing position. It enables the child to secure objects for climbing, pushing, and pulling. Grasp is challenged when a child hangs on to ropes when swinging, hangs from monkey bars or plays Tug of War.

GROSS RELEASE

Developmentally, the ability to grasp and hold an object is followed by a gross release. Initially, release is crude and somewhat random. Refining the ability to release enables the child to have greater control over objects. A child practices and refines his ability to release through play as he grasps and lets go of toys. Opportunities in play to stack blocks, put things in containers, and to toss bean bags or balls help refine these skills.

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FINE GRASP

Fine grasp is characterized by the ability to control each finger independently and in relation to the thumb. This is evident as the child learns to point his index finger, pokes at objects, and picks up small objects. The child then incorporates the middle finger into his pinch pattern, which provides him with a more secure fine grasp pattern. Skill and dexterity in using fine grasp is challenged as the child finger feeds and plays with pegs, beads, and crayons. Pre-writing skills emerge.

TIMED GRASP AND RELEASE

Once a child has practiced grasp and release in a random fashion, an element of timing emerges. Timing refers to choosing an appointed or fixed moment for something to happen, begin or end. Timing a motor response is a critical component of hand dexterity. Timing is developed in a gross motor sense when a child motor plans the actions of his whole body. In fine motor activities, timing for fine motor precision is practiced when a child uses eating utensils, throws and catches bean bags and balls, and begins to use a variety of tools.

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HAND DOMINANCE

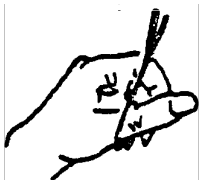
Many children who have fine motor problems may not have established hand dominance. Genetics, sensory processing and overall motor coordination can affect the development of hand dominance.

Genetically a child is thought to be predisposed to developing a preference for one hand over the other for fine motor precision. Inefficient central nervous system processing can interfere with the genetic urge to use a dominant hand. It has been hypothesized (Ayres, Diguerios) that when a brain is struggling with the interpretation of sensory information, this takes precedence over higher level brain functions such as the development of hand dominance for skilled fine motor control.

Overall motor coordination is an important foundation for the development of hand dominance. Hand dominance can be thought of as an end product of earlier developmental steps. The development of good coordination between the two body sides (bilateral coordination), and the ability to plan, time, and sequence an activity gives a child confidence to rely on one hand more dominantly for tasks requiring precision. A child who has the opportunity to develop solid sensory and motor foundations may automatically establish hand dominance.

TOOL CONTROL

Before a child can use tools in a coordinated manner, he must have basic control over his hands. The development of a gross grasp is important to overall strength and stability when holding the tool. Fine grasp is necessary to allow each finger and the thumb to accommodate to a wide variety of tools. The overall ability to coordinate the body sides is essential to provide stability with one hand while the other hand is engaged in a task requiring precision in movement. Timing of grasp and release and motor planning ability are important to execute quick yet accurate control over tools.



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Motor Planning

Motor planning is the ability of the brain to conceive of, organize and carry out a sequence of unfamiliar actions. Motor planning is the first step in learning new skills. Good motor planning ability requires accurate information from all sensory systems of the body.

Sensations from the eyes, ears, skin, muscle and joints and from the vestibular system provide the brain with basic and essential information. This information is important in order to be able to organize sensory impulses to plan, organize, time, and sequence an unfamiliar task. If a basic sensory component is contributing faulty or slow information, motor planning ability could be seriously compromised.

A child with poor motor planning may seem clumsy, accident prone, and messy. He may experience a prolonged period of struggle in attempting to master a new skill and, therefore, establish routines for himself to eliminate the need for unfamiliar movement. A bright child may be able to compensate for his lack of accurate sensory information by figuring out the demands of a task cognitively but may expend undue mental energy in doing so. A child of average intelligence may spend his time minding another child's business, and may be verbally manipulative in order to avoid having to perform motorically. This child may irritate the actions of another child rather than try to initiate the activity himself. Another child may even experience difficulty imitating the actions of others and find it difficult to follow a teacher's visual instructions.

Motor planning abilities are challenged in the classroom each time a child is presented with a variation of a familiar motor task or with a new assignment. When learning to write or cut with scissors, a child synthesizes a variety of sensory information to plan and sequence each stroke or cut in order to successfully complete the task. A child with a motor planning problem may have significant difficulty finishing his work on time as he does not have an idea of how to start or a strategy for finishing the task Another child may rush through the task without being able to recognize the parts or steps of the task as they relate to the end product. This child typically turns in messy, haphazard work.

Developmentally, a child learns to motor plan as he is exposed to variations of familiar activities. Through play, a child explores the use of many objects and develops creative ideas for a variety of actions. Motor planning is developed when a child experiments with how parts relate to a whole in such toys as puzzles and simple take-apart toys or models. A child learns to imitate when he plays pat-a-cake, peek-a-boo and later games such as Simon-Says, Mother-May-I, and Follow the Leader. Motor planning is further developed when a child is asked to sequence several motor actions in a new skill or several directions in an unfamiliar task.

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Ocular Control

Ocular control is the smooth and coordinated movements of the eyes to attend to and follow objects and people in the environment. Controlled eye movements are needed for finding and tracking a moving object, scanning the environment, sustaining eye contact on a fixed object or person, quickly shifting focus from one thing to another and for eye-hand coordination.

A child with poor ocular control may have difficulty controlling his eyes to follow a moving object. Eye contact while speaking to another person or fixating the eyes on a task may be momentary, making it hard for the child to look at something long enough to process its meaning. The child may not be able to copy assignments from the blackboard to the paper in a reasonable amount of time. He may be unable to coordinate smooth eye movements to read across a line. He may have trouble using his eyes to guide his hands for writing and using tools. The child may try to work with his eyes very close to his paper in an effort to gain better ocular control. This child may also have problems with depth perception if his eyes are not working well symmetrically.

Children refine ocular control developmentally as they are involved in movement activities such as rolling, crawling, and walking in an effort to reach people and objects. Ocular control is challenged in play when children toss and catch balls and bean bags, manipulate toys or use tools.

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Perception of Movement

Perception of movement refers to the processing of vestibular information in the brain. The receptors in the inner ear perceive information about the force of gravity and movement. By sending messages to higher centers in the brain, the vestibular system aids in maintaining joint stability, posture, balance, motor control, spatial awareness, and a stable visual field. In addition, the vestibular system sends information to a part of the brain that regulates attention. Therefore, movement can be used to facilitate attention or to provide a calming effect.

Some children may not process enough information about gravity and movement while others "over" process the incoming sensory information. The child who is not processing enough movement information may have trouble stabilizing and coordinating neck and eye musculature in order to copy letters, draw, or follow a line in reading. He may not be able to maintain his posture subconsciously and needs to concentrate on sitting in his chair. He leans heavily on his desk when he is trying to listen to the teacher. When standing in line he looks for someone or something to lean on. He may lose his balance easily or appear to move excessively, using momentum to compensate for poor equilibrium responses.

The child who perceives too much movement information may be overly frightened by movement. He may not be able to keep up with his peers on the playground and has difficulty mastering environmental obstacles such as stairs or uneven terrain. He may become fearful, stubborn or so overly stimulated by movement that he becomes a behavior problem.

Many activities provide opportunities for processing movement information in the brain. Some examples are rolling, running, hopping, skipping, and jumping. Playground equipment such as swings, slides, merry-gorounds and teeter-totters are good sources of movement experiences. When a teacher observes that a child is having problems with posture, balance or tolerating movement, providing these opportunities may be helpful. If a child appears to fear to seek an excess of movement and this behavior is interfering with independent functioning in the classroom, an occupational therapist should be contacted.

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Perception of Touch

Tactile perception pertains to the sense of touch on the skin. The tactile system is a two-fold system involving the interpretation of protective and discriminative information. The protective tactile system is responsible for the body. automatically withdrawing or defending itself from touch that is interpreted as harmful. The discriminative touch system provides the brain with the precise information regarding size, shape, and texture of objects in the environment. The integrity of both tactile systems is essential for tool use and for many aspects of social and emotional development.

A child with a problem related to a disordered tactile system may be hypersensitive or hyposensitive to touch or have poor tactile discrimination. The hypersensitive child may appear aggressive in his interaction with others. He may avoid art projects or outdoor play in the grass, dirt or sand because of his tactile discomfort. His need to protect himself from inadvertent tactile input may result in poor attentional skills. The hyposensitive child may be unaware of being touched and not react normally to painful experiences such as cuts and bruises. The child with poor tactile discrimination may have difficulty manipulating tools and toys.

Activities providing a variety of tactile input include art projects, cooking with different ingredients, going barefoot in the gass, sand or dirt, and games involving different textures and materials. Tactile activities should never be forcefully imposed upon a child who avoids or complains about tactile stimuli. If the teacher suspects that a tactile problem is interfering with tool use, peer relationships or independent functioning in the classroom, and attempts to involve the child in a variety of tactile activities fail, then an occupational therapist should be consulted.

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Visual-Spatial Perception

Visual-spatial perception is how a person perceives the relationship of external space to his body as well as how he perceives objects in space relative to other objects. The importance of eyesight in classroom performance is obvious but sight alone is not enough. Vision needs to be combined with an interpretation of the physical environment to gain meaning from what we see.

Visual-spatial perception provides us with information about our environment. The way a child perceives space and his orientation within that space can affect his gross motor skills and classroom performance. Without adequate visual-spatial perception, a child may bump into things and may have difficulty getting from one place to another without getting lost. During team sports he may run toward the wrong goal. Judgment of distance and height may be inadequate. Executing stairs and curbs, pouring from containers, and shooting at targets may be difficult. The formation of letters may be laborious if a child is not able to identify visual and spatial similarities and differences. A child with a problem in this area may not know where to start writing on the paper. His letters may vary in size, spacing, and alignment. Letter and number recognition may be poor and reversal of letters can be a common problem. Copying words from the blackboard onto paper may be difficult. He may have difficulty staying within his personal boundaries and his school supplies and personal belongings may be scattered and disorganized.

Locomotion provides the child with experience to learn about the relationship between himself and the physical environment. As the child explores the space around him, his sense of movement, body awareness, and visual input come together to form an internal map of the relationship between himself, objects, and space. Initially, visual-spatial perception develops as the child moves over, under, through, and around objects in the course of his play. As these experiences are organized in the brain. perceptual areas such as form constancy, position of objects in space, figure-ground, and depth perception begin to emerge. The ability to place cognitive labels on space such as right, left, above, and below requires that these perceptual foundations be well established physically.

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Trouble Shooting

Overcoming Sensory-Motor Obstacles in the Classroom

Children come to school with a wide variety of strengths and limitations. When an assignment is presented to a class of children, there will be many different approaches used in attempting to complete the task. Some children will begin and complete a task with ease. Some children have difficulty staying in their seats or knowing where to begin the task. Other children readily begin an assignment, struggle through the task and never seem to finish. It is the responsibility of the teacher and school district staff to modify activities so that each child experiences success in beginning and completing tasks appropriate for his potential with the least amount of frustration and stress.

Modifying an activity is not an easy task. There are many factors related to successful performance. The accurate perception of movement, touch, body awareness, auditory and visual information, the coordination of eye movements, the coordination of the two body sides, and the execution of a motor plan influence one's ability to perform skillfully without undue effort. The amount of structure provided in the implementation of an activity can influence the productivity of a class. Peer interaction and sportsmanship are additional factors contributing to the success of many activities in the classroom.

Classroom activities can be modified in a number of ways to correspond to a child's sensory and motor needs. The purpose of this section is to stimulate a teacher's interest and ability to modify activities. The following pages provide strategies for modifying activities. There are no hard and fast solutions, but have you tried ... ? (see next page)

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Strategies for Modifying Activities

When a child is having difficulty with an activity have you tried ....

- Weighing the value of that activity? Is It something that the child really needs to master or can he get through school years without this skill?

- Practicing activities with similar demands using any one of a number of other media? Try practicing direction following, listening, independent planning, sequencing, task persistence, and task completion through art projects, music games and motor activities.

- Following developmental progressions? Consult your favorite developmental schedule or evaluation tool to get ideas for adjusting the level of skill expected.

- Progressing from repetition to trial and error problemsolving to abstract problem-solving. Sometimes children need more time for repetition and experimentation.

- Assigning a task that can be completed in a short period of time? Emphasize the completion of a task. Some children have difficulty independently organizing and initiating the parts of the whole task. Try to break the task into parts and document success in completing each part. It is more satisfying to complete several small tasks than to continuously struggle and never quite complete one long task Some children need to see instant results. Adjust the task so that the child can finish the task in a set amount of time. This will develop a sense of accomplishment and confidence in completing tasks.

- Identifying the importance of the end product to the child? Sometimes the process in completing a task is more important to the child than the end product. Sometimes the end product is very important to the child. Satisfaction builds motivation and persistence.

- Adding or subtracting sensory information? When analyzing a task, check the environment for auditory, visual, and tactile distractions.

The following pages provide examples of ways to add or subtract sensory information.

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Beginning And Completing Tasks

Problems In This Area Could Be Related To:	Have you tried
AUDITORY PROCESSING Difficulty understanding and interpreting the spoken word can interfere with a child's ability to begin and complete a task.	• Giving one direction at a time? Sometimes, if a child is given a three-part command, he will act on only the last direction. • Using short, simple, one-concept phrases to give directions? Do not elaborate. Repeat verbal directions slowly, firmly, clearly. • Waiting? Wait a little longer than you think is necessary to give the child time to analyze the command and put It Into action. • Giving a visual demonstration or physical assistance? • Reducing auditory distractions? Be aware of papers shuffling, pencils dropping, etc. • Scheduling classroom activities with high auditory processing demands at a time when auditory competition outside is at a minimum? • Practicing verbal direction-following in gross motor games? Progress from one- to four-step sequences. • Insisting that a child does not move until you have finished the direction? Have the child repeat the direction in the proper sequence.

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Problems In This Area Could Be Related To:	Have you tried
MOTOR PLANNING The ability to plan. organize and sequence strategies is essential to beginning and completing tasks.	• Helping the child identify steps needed to begin and accomplish the task? Have the student repeat directions and, if possible, write down the steps. • Giving a short assignment so that a child can feel Instant success in completing a task? Document the length of time a child can focus on one task and structure the assignment so that it can be completed in that length of time. • A system for checking off steps as they are accomplished? • Giving one direction at a time? After one action is successfully completed, add another direction. • Helping the child physically move through the action? • Minimizing visual distractions? Check for clutter in classroom environment. • Art projects that require assemblying parts to create an object? This challenges the student's ability to develop strategies for organizing parts as they relate to the whole. • Playing Simon Says and games that require imitation to see if the student is able to process directions and copy?

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Copying From Blackboard

Problems In This Area Could Be Related To:	Have you tried
OCULAR CONTROL Weak eye muscles can make eyes tire easily when they are required to repeatedly shift focus from the blackboard to the desk	• Writing small amounts on blackboard at a time? • Alternating blackboard activities with less visually demanding tasks? • Scheduling a few moments to close and relax eyes between tasks? • Eye tracking activities such as suspended ball, balloon, and bean bag games? These games challenge the alternating focus from near to far. Try to have the target approximately the same distance as a blackboard is to a seat. • Wheelbarrow walking and rolling games? These activities help strengthen eye, head, and neck stability important for a stable visual field.
VISUAL - SPATIAL PERCEPT1ON Unidentified acuity problems as well as difficulty transferring visual-spatial information across two visual planes can make copying from the blackboard difficult.	• Checking with parents and school nurse to see if there is an acuity problem? • A clean blackboard? Yellow chalk is thought to have the best visibility. • An easel with large white paper and a thick black magic marker? • An overhead projector so that you can visually isolate different words or sentences? • Copying from one paper to another- in the same plane? • Providing the child with a ditto outline of material to be covered on a blackboard? Until a child is independent in copying, try having portions of blackboard material already on his paper.

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Cutting With Scissors

Problems In This Area Could Be Related To:	Have you tried
COORDINATING BODY SIDES Cutting with scissors requires one hand to guide while the other hand cuts. Both hands must work well together.	• Providing opportunities for the right and left arms and hands to work together? Try clapping and • lummi stick games. • Providing opportunity for hands and fingers to practice working together? Try leggo, pop bead, tinker toy, string bead, sewing, and woodworking projects. • Paper folding and paper tearing as part of art projects? • Mixing bowl activities so that one hand stabilizes the bowl and the other hand mixes? Try sand and water or food mixes. For tool variation, try a spoon, whisk, egg beater, fork.
FINE MOTOR CONTROL A tool is only as accurate as the hands and fingers that control it.	• Hand grasp strengthening activities? For example, holding on to the ropes of swings, playing tug-of-war, using a hole punch, spraying with trigger-type spray bottles can help strengthen grasp. • Providing opportunities for practicing timed grasp and release with tools other than scissors? Try using tweezers or tongs to sort cotton balls, blocks, play dough balls, lentils, etc. • Cutting without a demand for precision? Try cutting pieces of straws, grass, strips of paper, rolls of play dough. • Consulting a resource for appropriate developmental expectations? Developmentally, children are not ready for scissors until approximately four years of age.

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Maintaining Order in Line

Problems In This Area Could Be Related To:	Have you tried
BODY AWARENESS Some children with poor awareness of where, how, and with what force their body parts are moving may inadvertently run into their peers or play too roughly.	• Markers at the door? Space markers can be made by placing sticker dots or masking tape lines for each child to stand on while waiting. • Having young children hold on to a rope with knots spaced 2 feet apart? • Allowing extra time and space for children to put on jackets and sweaters prior to getting into line? • Complimenting those students who are maintaining order?
PERCEPTION OF TOUCH Hypersensitivity to touch can make inadvertent human contact painful and disturbing. Inadvertent physical contact may provoke disruptive behavior in some children.	• Having the child who has a tendency to be disruptive go first or last in line? This will minimize possible tactile contact. • Minimizing time expected to stand and wait In line? • Allowing a child with suspected hypersensitivity to touch to wear a sweater or jacket indoors?

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Organizing Behavior During Motor Time

Problems In This Area Could Be Related To:	Have you tried
DEGREE OF STRUCTURE Inadequate structure may contribute to a sense of chaos during motor activities.	• Reviewing how to play the game before actually playing it? Demonstrate verbally as well as visually. • Implementing motor time in the classroom rather than outside? There are. fewer distractions Inside and students are more likely to follow classroom rules. • Designating a boundary or place marker for each child? Try using carpet squares. chalk marks, or masking tape. • Marking the boundaries of the game? For example. rope. yarn, masking tape. or chalk can be used to mark a game circle, or start and finish lines. • Using signals for control? Two blows of a whistle to signal freeze. Practice Simon Says or freeze-type games. • Stopping action between turns in order to get everyone's attention and therefore regain control? • Giving one direction at a time? For example: "Stand on the line." PAUSE. Wait until the class is on the line. "We are going to ... " (one direction). PAUSE. • "and . . ." (a second direction). • Scheduling and implementing frequent (daily) motor time so that students become familiar with behavioral expectations during motor activities? • Working with small groups of children (approximately 6-8 in a group)? Divide the children by using a coding system (color. number. animal). • Scheduling a calming familiar backup game if the structure of a new game fails? Before a new game is discarded. try to alter the structure for future success.

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Organizing Behavior During Motor Time
- Continued -

Problems In This Area Could Be Related To:	Have you tried
BROAD RANGE OF SKILLS Activities that are too easy or too difficult tend to elicit disruptive behavior.	• Initially having the entire class play a game at the lower skill level? Observe the more advanced students' sportsmanship, social communication, cooperation. • Giving the students different assignments within the game? For example: Jump Rope- one child can be expected to jump the turning rope, while another. proceeds to run through the turning rope. Target Games - the size and distance can be varied for each child. Throw and Catch Games - the students can be paired high skill with high skill or alternated high skill/low skill. • Complimenting the children for cooperation? For example, compliment the student who is at the higher level. "I like the way you are helping Johnny." "You are doing a nice job working with Susie." At the same time, recognize the student at the lower level. "Nice try, John." • Allowing a different number of turns for each child depending on skill level? • Considering ways to make the game easier or more difficult prior to implementing the activity? • Integrating children from other classrooms with similar skill levels? • Dividing the class into several groups (one group for every available adult) to practice at various skill levels? • Allowing a child who is having difficulty 10 to 15 minutes of extra practice time prior to classroom motor time? Try the "buddy system," working with a classmate who can assist with practice.

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Organizing Personal Belongings

Problems In This Area Could Be Related To:	Have you tried
BODY AWARENESS Inaccurate awareness of where, how and with what force body parts are moving in relation to objects can cause personal belongings to be disorganized.	• Stabilizing school supplies by weighting the child's pencil box and other containers? Use washers or plaster of paris. • Triangular finger grips on pencils and crayons to prevent them from rolling off the desk? • A clipboard and large bulldog clips to keep papers together?
VISUAL - SPATIAL PERCEPTION Difficulty with figure-ground perception (identifying objects with a rival background) can contribute to a problem with sorting and organizing personal belongings.	• Keeping only necessary items on desk top? • Allowing limited number of personal belongings at school? • Designing a place or container for each belonging?. • Scheduling a set time each day to organize belongings? • A color coded filing system? Folded construction paper of different colors can signify different subjects or complete and incomplete work. • Discussing strategies for organizing personal belongings? Ideas include talking about sorting like objects, same and different characteristics of objects. This can be applied to cleaning a bedroom, doing the dishes, sorting collections of rocks. bugs, or sea shells. etc..

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Performing Tasks While Seated

Problems In This Area Could Be Related To:	Have you tried
BODY AWARENESS Deficient strength and muscle tone in the muscles may make it tiring to sit erect for long periods. Work against resistance gives the muscles and joints better feedback about where the body is in relation to objects in the environment.	• Placing a heavy bean bag on a lap? • Periodically giving firm hand pressure on the child's shoulders? • Providing a brief time of classroom aerobics? Jun ping, ru=g in place, etc. may be the input the child needs to stay in his seat for longer periods • of time. • Alternating centers for work? Try providing a specific place to work where the child can stand. kneel, or lie prone. Expect at least five minute's • work in each position. • Bean bag chairs to aid in supporting body weight more comfortably? • Expecting less erect posture. particularly during academic tasks requiring high concentration and towards the end of the day?
PERCEPTION OF TOUCH A hypersersitivirv to touch may make it difficult for some children to stay in their seat because they are trying to avoid inadvertent touch by the child next to them.	• Spacing children so that they are not sitting near enough to touch one another? • Allowing the child to wear his favorite sweater orJacket when he is in situations where he will be near other children? • Markers to help designate personal space when sitting on the floor?

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Producing Organized Written Work

Problems In This Area Could Be Related To:	Have you tried
BODY AWARENESS Poor automatic awareness of where, how, and with what force body parts are moving can account for torn and wrinkled work. holes in papers. and broken pencils.	• A tripod pencil grip? This may help a child who is tense relax his grip, enabling him to better control the amount of pressure he uses. • Providing the child with thicker paper? Try glueing the child's writing paper onto construction paper for extra support? • Playing pre-writing warm-up exercises or motor time games of wheelbarrow walking or tug-of-war? These games "wake up" some of the muscle groups used for good fine motor control. • Pouring exercises? Child experiments with trying to pour from a cup or pitcher different amounts of sand, lentils, rice, or liquid. Strive for accuracy in force of movement. • Bean bag games using bean bags of different weights and targets of varying distances? These games challenge the muscles to react to where, how, and with what force they are moving.
VISUAL - SPATIAL PERCEPT1ON Inaccurate perception of the relationship of one's body to external space can contribute to a disorganised approach to a task. Faulty interpretation of the spatial relationships of objects, letters, and words to one another also contribute to messy work.	• Using quadrile paper for math? Emphasizing spatial terms? Use colored tape on desk. On left side use green to show starting point. On right side, red to show stopping point. • Taping paper to desk at no more than a 45 degree angle? • Art projects that require spatial precision? • A shield or folding paper to eliminate visual distractions? Cut a hole in a piece of card stock paper the average size of a word or sentence. This can be placed over the paper a child is working on and moved when appropriate. • Motor time activities that incorporate precision in movement? Games such as hop scotch challenge precision, accuracy, and neatness. • A popsicle stick, tongue depressor, or strip of paper to mark a space between words? (see appendix) • Pre-marked paper? Try premarking paper, indicating space appropriate for name, date, and subject.

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Sportsmanship And Cooperation

Problems In This Area Could Be Related To:	Have you tried
PEER INTERACTION Poor peer Interaction may interfere with good sportsman. ship. The negative behavior of one or two students can spoil the fun of the activity.	• A review of the classroom rules? For example, “Do we have a rule about ...?” • Positive reinforcement techniques? Give immediate honest and positive comments on each small effort or appropriate social Interaction. “I like how you are waiting for your turn." “That was nice of you to help Johnny." • Ignoring disruptive behavior while complimenting desired behavior? "I like the way the red team is lining up. They can be first." • Scheduling consistent motor time opportunities to practice sportsmanship? • Providing game ideas for structured recess? Leisure time without a plan is a problem for some children. • Structuring the game so that everyone wins and no one loses? Rules of most traditional games can be changed so that no one is eliminated. • Changing roles frequently in games so that students can experience being leader vs. participant, first vs. last, etc.? • Adding a cooperative component to "dodge ball" type games? For example, pass the ball three times before throwing it. • Avoiding chase-type games? • Providing enough equipment so that everyone can participate within a reasonable amount of time? Try to reduce time that children are waiting for a turn. • Dividing teams in advance, or varying the method used for choosing sides? Avoid teams chosen by students, unless the method is objective.

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Sportsmanship And Cooperation
-Continued-

PERCEPTION OF TOUCH Hypersensitivity to touch can make inadvertent human contact painful or disturbing. Inadvertent physical contact may provoke disruptive behavior in some children.	• Allowing the child to wear his favorite sweater or jacket when he will be near other children? • Markers to designate personal space? • Talking about the game strategy to the child who is suspected of being hypersensitive to touch? If appropriate, mention that sometimes another child may accidentally bump into him, and not to worry. • Allowing the hypersensitive child to have a larger personal pace when participating in group activities?

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Writing With Pencils

Problems In This Area Could Be Related To:	Have you tried
FINE MOTOR CONTROL A tool is only as accurate as the hands and fingers that control it.	• Hand grasp-strengthening activities? For example, holding on to the ropes of a swing, playing tug-of-war, using a hole punch, spraying with trigger-type spray bottles can help strengthen grasp. • Kneading, poking, and rolling playdoughs and clays of various densities to develop basic hand and finger skill? • Providing opportunities for the child to use a variety of tools? Try some of the suggestions in this manual for tool activities. • Letting the child practice penmanship on the blackboard? • Art projects requiring less precise use of pencils and crayons? • Limiting the number of written assignments? • Allowing typed reports, oral reports, or reports dictated onto a cassette? • Using adult-sized pencils and crayons in kindergarten? Sometimes these are easier for little fingers to control. • Wrapping a pencil with silly putty or play dough? This may help to relax a tense grip. • Discussing the importance of neat penmanship? Sometimes messy handwriting is related to a poor attitude.

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Writing With Pencils
-continued-

VISUAL - SPATIAL PERCEPTION **OCULAR MOTOR CONTROL** The correct interpretation of the spatial relationship of objects, letters, and words to one another is essential to legible writing. Coordinated eye movements are important for the eyes to smoothly guide the hands.	• Practicing spatial relationships using manipulative toys to duplicate sequences or structures? • Letter formation with finger paint? (add sand for increased tactile stim). Try shaving cream on a desk • Practicing writing letters in the air with streamers? • Writing letters with a paintbrush and water on the cement? • Practicing letters with stencils? • Taping the alphabet to the top of the desk for easy reference? • Providing a marker to use between words as they are written to help the child with proper spacing? • Playing balloon, suspended ball, and bean bag games during motor time? Some children need to be reminded to look at the object they are coordinating with their hand.. • Using smaller ruled paper? Sometimes it is easier to write smaller.

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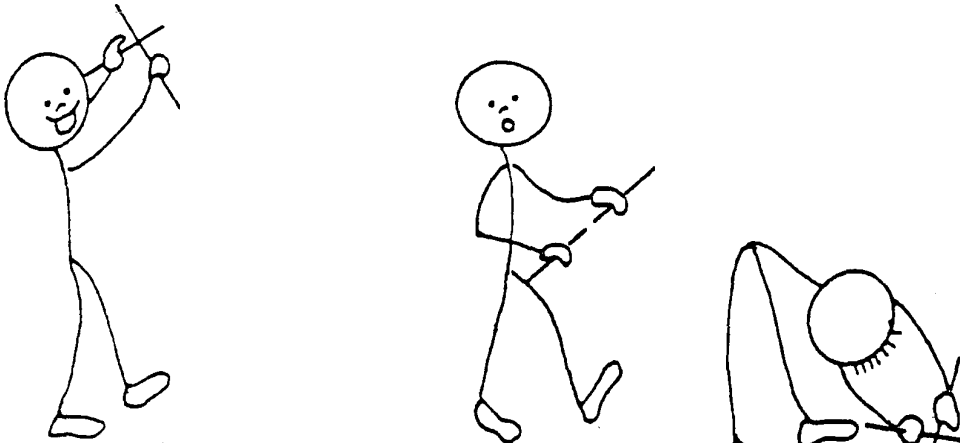
Lummi Sticks

Equipment	One set of lummi sticks per child. Music - simple songs.
Activity	Lummi sticks are rhythm sticks. They are used to tap to a rhythm of a familiar rhyme or song. Variations include combinations of tapping sticks together. Try tapping a body part, tapping the floor, tapping the ends of the sticks, tapping high, tapping low, tapping to the right, tapping to the left, or tapping under a raised knee. Let your music suggest your movements.
Teacher Observations	*Coordination of Body Sides:* Can the child simultaneously tap the sticks? Auditory *Processing:* Does the child tap at the correct auditory cue? *Motor Planning*: Is the child able to sequence several combinations of tapping movements?



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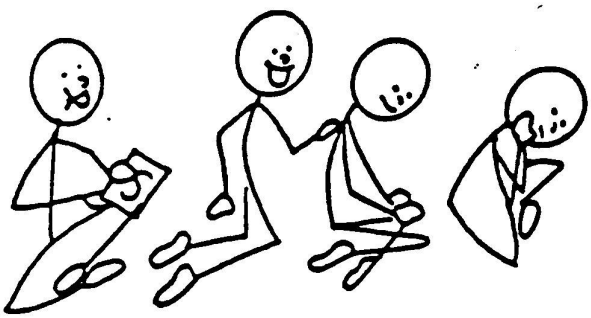
Pass It On

Equipment	Pencil. Paper.
Activity	Children are divided into groups and are seated train style, facing one another's back. The last child in the line draws a letter, number, or shape on the person's back directly in front of him. The child who has the design drawn on his back draws what he experiences on the back of the child in front of him. This is repeated until the first child in line receives the tactile message. He then draws on a paper or blackboard what was felt. The last child in line verifies the correctness of the message. The order of the children may be rotated to facilitate the accuracy of the message. To vary level of difficulty, try rhythmical tapping on one another's back or using consecutive letters to convey simple words or messages.
Teacher Observations	*Perception of Touch*: Does the child complain of unusual tickling or pain when the message is drawn? *Visual-Spatial Perception*: Is the child able to duplicate design accurately?



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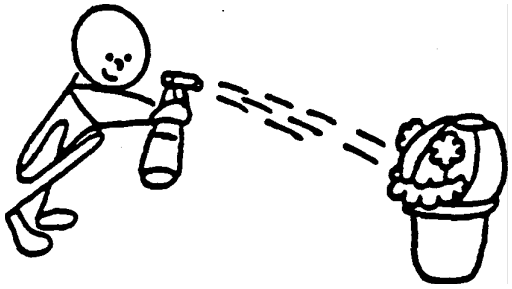
Spray Bottle Games

Equipment	Trigger-handled spray bottles. ` Bucket of water for refilling bottles. Targets: Playground cement Beach ball with shaving cream Bubbles Ping pong balls.
Activity	The children line up in groups of two or three and each group is seven one spray bottle. Children can draw letters and numbers on cement using a stream of water from the spray bottle. A beach ball can be placed on top of the bucket four to six feet from the children. Draw a happy face, number, or letter on the ball with shaving cream and have the children take turns squirting the water at the beach ball until the soap is washed off. Children can spray a stream of water to pop bubbles blown by the teacher. Children can have relay races propelling a ping pong ball with a stream of water over a designated finish line.
Teacher Observations	Fine Motor. Is the child able to repeatedly squeeze the spray bottle trigger? Ocular Control: Does the child maintain visual contact with the object that he is spraying with water?



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