

SAMPLE of a Sensory Diet

This MUST be personalized for each child

This is a sensory diet for _____

This was developed by _____

Sensory Diet

WHAT IS A SENSORY DIET?

A sensory diet is a group of activities that are specifically scheduled into a child's day to assist with attention, arousal and adaptive responses. The activities are chosen for that child's needs based on sensory integration theory. The use of specific types of input; proprioceptive, tactile, visual auditory, vestibular, gustatory, and oral motor are introduced during various times of the day and assist the brain in regulating attention and an appropriate level of arousal. These different types of input cause a release of neuro-chemicals that can last up to two hours, depending on the type of input and intensity. A sensory diet is designed to keep a flow of these neuro-chemicals steady in the brain throughout the day for improved learning.

A sensory diet is prescribed only by an Occupational Therapist or a Certified Occupational Therapy Assistant and is monitored by them, but it is a plan that should be carried out on a daily basis by a person trained on specific techniques by an OT or COTA. If you have any questions regarding this sensory diet, please talk to the child's therapist listed at the top of this page.

These activities are designed to produce a positive effect on a child. If at anytime the child reacts negatively to the input, the activity should be stopped. **NO ACTIVITY SHOULD EVER BE FORCED ON A CHILD.** Please only do the activities that have been checked off.

PROPRIOCEPTIVE / HEAVY MUSCLE WORK:

- _____ carrying a weighted book bag or books to the office and back
- _____ rolling a large ball on a child that is lying on the floor (can pretend to make a pizza and roll out the dough, etc.)
- _____ pushing the wall
- _____ wall or chair push-ups
- _____ pushing a vacuum, wheelbarrow, or large trash can down the hall
- _____ playing on monkey bars, climbing activities
- _____ rolling up in a blanket (regular or weighted)
- _____ jumping on a trampoline
- _____ jumping jacks, running in place with heavy stomping
- _____ wheelbarrow walking
- _____ tug of war games
- _____ cleaning or erasing chalkboards
- _____ pushing self on scooter (seated or on stomach)
- _____ pushing self across floor on carpet square while seated or in kneeling
- _____ deep pressure downward with hands on top of shoulders
- _____ big bear hugs
- _____ activities lying on stomach while propped up on elbows
- _____ weighted vest or compression vest (20 minutes on 20 minutes off unless otherwise directed)
- _____ weighted lap pad for sit down activities
- _____ rearranging desks in room
- _____ clapping games
- _____ have child's palms on your palms and push, vice-versa
- _____ stacking chairs
- _____ pushing self in toy or tricycle
- _____ drumming, banging on ball
- _____ pushing on a ball
- _____ rolling/pushing against a ball up a wall

ORAL MOTOR:

- _____ chewy, crunchy foods to alert and increase attention (raw fruits and vegetables, licorice, gummy snacks, pretzel rods, gum, etc.)
- _____ food with intense flavors (extreme sour)
- _____ whistles, blowing activities, (blowing cotton balls across a paper, making bubbles with a straw in water, blowing bubbles)
- _____ provide things to chew on (therapist will give you such as chew tubes, etc.)
- _____ sucking (use water bottle at desk also increases hydration which increases concentration)

TACTILE (Touch):

- _____ play in tubs of rice, beans, macaroni, etc. hands or feet
- _____ play in textured materials such as shaving cream, play-doh, cornstarch and water, etc. Can practice letters in these mediums
- _____ brushing protocol if tactile defensive (requires one on one training with OT or COTA)

VESTIBULAR (Movement):

***Use caution with these activities, watch for changes in skin color, signs of nausea, changes in heart rate or breathing. Stop immediately if these occur.**

- _____ swinging (no spinning) – child directed
- _____ wind mills, head shoulders knees and toes songs (any songs that require change of head position)
- _____ jumping activities
- _____ log rolling
- _____ somersaults (if safe doing them, head tucked) - *Do not do with children with Downs Syndrome
- _____ riding hippity hop
- _____ scooter board (on stomach or seated)
- _____ riding bike, etc.

ALERTING:

These activities are specifically designed to alert a child that is having a difficult time staying aroused. Please consult with OT or COTA before using these activities to make sure that the child is truly under aroused and not in a shut down state. Some signs of under stimulation are:

- Lethargic/falling asleep
- Slumped posture
- Decreased attention
- Slow moving
- Decreased ability to follow directions
- Drooling or open mouth posture

_____gently wiping face and cool cloth

_____use bright lighting

_____drinking cold water from a water bottle or fountain

_____loud, fast paced music

_____irrhymical swinging (need to be shown by OT)

_____vigorously rubbing arms and back (not if tactile defensive)

_____running in place

_____jumping in place

_____high knee stepping

Sensory Integration

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Children and adults with autism, as well as those with other developmental disabilities, may have a dysfunctional sensory system. Sometimes one or more senses are either over- or under-reactive to stimulation. Such sensory problems may be the underlying reason for such behaviors as rocking, spinning, and hand-flapping. Although the receptors for the senses are located in the peripheral nervous system (which includes everything but the brain and spinal cord), it is believed that the problem stems from neurological dysfunction in the central nervous system--the brain. As described by individuals with autism, sensory integration techniques, such as pressure-touch can facilitate attention and awareness, and reduce overall arousal. Temple Grandin, in her descriptive book, *Emergence: Labeled Autistic*, relates the distress and relief of her sensory experiences.

Sensory integration is an innate neurobiological process and refers to the integration and interpretation of sensory stimulation from the environment by the brain. In contrast, sensory integrative dysfunction is a disorder in which sensory input is not integrated or organized appropriately in the brain and may produce varying degrees of problems in development, information processing, and behavior. A general theory of sensory integration and treatment has been developed by Dr. A. Jean Ayres from studies in the neurosciences and those pertaining to physical development and neuromuscular function. This theory is presented in this paper.

Sensory integration focuses primarily on three basic senses--tactile, vestibular, and proprioceptive. Their interconnections start forming before birth and continue to develop as the person matures and interacts with his/her environment. The three senses are not only interconnected but are also connected with other systems in the brain. Although these three sensory systems are less familiar than vision and audition, they are critical to our basic survival. The inter-relationship among these three senses is complex. Basically, they allow us to experience, interpret, and respond to different stimuli in our environment. The three sensory systems will be discussed below.

Tactile System: The tactile system includes nerves under the skin's surface that send information to the brain. This information includes light touch, pain, temperature, and pressure. These play an important role in perceiving the environment as well as protective reactions for survival.

Dysfunction in the tactile system can be seen in withdrawing when being touched, refusing to eat certain 'textured' foods and/or to wear certain types of clothing, complaining about having one's hair or face washed, avoiding getting one's hands dirty (i.e., glue, sand, mud, finger-paint), and using one's finger tips rather than whole hands to manipulate objects. A dysfunctional tactile system may lead to a misperception of touch

and/or pain (hyper- or hyposensitive) and may lead to self-imposed isolation, general irritability, distractibility, and hyperactivity.

Tactile defensiveness is a condition in which an individual is extremely sensitive to light touch. Theoretically, when the tactile system is immature and working improperly, abnormal neural signals are sent to the cortex in the brain which can interfere with other brain processes. This, in turn, causes the brain to be overly stimulated and may lead to excessive brain activity, which can neither be turned off nor organized. This type of over-stimulation in the brain can make it difficult for an individual to organize one's behavior and concentrate and may lead to a negative emotional response to touch sensations.

Vestibular System: The vestibular system refers to structures within the inner ear (the semi-circular canals) that detect movement and changes in the position of the head. For example, the vestibular system tells you when your head is upright or tilted (even with your eyes closed). Dysfunction within this system may manifest itself in two different ways. Some children may be hypersensitive to vestibular stimulation and have fearful reactions to ordinary movement activities (e.g., swings, slides, ramps, inclines). They may also have trouble learning to climb or descend stairs or hills; and they may be apprehensive walking or crawling on uneven or unstable surfaces. As a result, they seem fearful in space. In general, these children appear clumsy. On the other extreme, the child may actively seek very intense sensory experiences such as excessive body whirling, jumping, and/or spinning. This type of child demonstrates signs of a hypo-reactive vestibular system; that is, they are trying continuously to stimulate their vestibular systems.

Proprioceptive System: The proprioceptive system refers to components of muscles, joints, and tendons that provide a person with a subconscious awareness of body position. When proprioception is functioning efficiently, an individual's body position is automatically adjusted in different situations; for example, the proprioceptive system is responsible for providing the body with the necessary signals to allow us to sit properly in a chair and to step off a curb smoothly. It also allows us to manipulate objects using fine motor movements, such as writing with a pencil, using a spoon to drink soup, and buttoning one's shirt. Some common signs of proprioceptive dysfunction are clumsiness, a tendency to fall, a lack of awareness of body position in space, odd body posturing, minimal crawling when young, difficulty manipulating small objects (buttons, snaps), eating in a sloppy manner, and resistance to new motor movement activities.

Another dimension of proprioception is praxis or motor planning. This is the ability to plan and execute different motor tasks. In order for this system to work properly, it must rely on obtaining accurate information from the sensory systems and then organizing and interpreting this information efficiently and effectively.

Implications: In general, dysfunction within these three systems manifests itself in many ways. A child may be over- or under-responsive to sensory input; activity level may be either unusually high or unusually low; a child may be in constant motion or fatigue easily. In addition, some children may fluctuate between these extremes. Gross and/or

fine motor coordination problems are also common when these three systems are dysfunctional and may result in speech/language delays and in academic underachievement. Behaviorally, the child may become impulsive, easily distractible, and show a general lack of planning. Some children may also have difficulty adjusting to new situations and may react with frustration, aggression, or withdrawal.

Evaluation and treatment of basic sensory integrative processes is performed by occupational therapists and/or physical therapists. The therapist's general goals are: (1) to provide the child with sensory information which helps organize the central nervous system, (2) to assist the child in inhibiting and/or modulating sensory information, and (3) to assist the child in processing a more organized response to sensory stimuli.

For further information, contact: Sensory Integration International, P.O. Box 9013, Torrance, CA 90508, USA

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SIGNS OF SENSORY DIFFICULTIES

Infant/child may exhibit the following:

- colic
- irritability (very difficult to comfort)
- easily upset when changed positions (vertical or horizontal)
- upset by being touched
- oral defensiveness (breath, suck, swallow pattern disrupted)
- recurring digestive problems
- sleep problems
- avoidance of eye contact
- does not demonstrate exploratory behavior
- ritualistic behaviors
- struggles/difficulties during morning routine
- hyperactivity
- hypervigilant
- insistence on unusual routines or strategies associated with play or ADLs
- self-stimulation, **self-injury**
- excessive rough play
- overly reactive with fight, flight, or freeze behaviors

Later manifestation may be seen as:

- compulsive
- obsessive to routine, sequence
- never happy and relaxed
- socialization difficulties
- limited interests
- poor personal care
- perseveration
- easily explosive
- addictive behaviors
- poor modulation of emotions, and not easily “regrouped” after outburst

Children with Sensory Integration Problems

Available at:

<http://mhsqic.org/DSQIC/edocs/si/si4.htm>

Winnie Dunn is an occupational therapist who has studied how different children react to sensory stimulation. Dr. Dunn has discovered that children have different thresholds to sensory stimulation. As stated earlier, children with a high threshold need a lot of stimulation. Children with a low threshold need just a little stimulation to react. Dr. Dunn says that children with difficulty processing sensory information might have one of four types of responses to senses from the environment:

High Threshold

- Poor Registration
 - Children with poor registration have difficulty reacting to stimuli because of a high threshold. This means these children need more stimuli to react. These children might not react to a whisper, but rather need a loud call to come.
- Sensation Seeking
 - Children who are sensation seeking will look for many sensory experiences. They have to be constantly moving, or touching or chewing on everything.

Low Threshold

- Sensitivity to Stimuli
 - Children who are sensitive to stimuli might not be able to block out stimuli and may get overwhelmed by lots of stimuli. These children may have trouble in a crowded room with lots of people talking.
- Sensation Avoiding
 - Children who are avoiding sensations might be unwilling to try new things or to participate in unpredictable situations.
- How do you know if your child is having problems with sensory processing?
Dunn's Sensory Profile (1999) is a questionnaire used by professionals to examine a child's processing of sensory information. More informal checklists are included in Kranowitz's (1998) book.

Here is a sample of some of the items:

- Is your child particularly sensitive to touch?
- Does your child enjoy fast-moving or spinning activities?
- Does your child have unusual sensitivities to smell?
- Does your child avoid physical games involving jumping?
- Do you feel your child tends to be restless or "fidgety?"

*Some General Classroom Suggestions**

made available by:

<http://mhsqic.org/DSQIC/edocs/si/si6.htm>

Begin the year with a classroom with every little decorations on the wall and ceilings. Put up materials slowly and one at a time. Add decorations with each unit and have the children help put the materials up. Use natural times in the curriculum to take materials down and send home, such as for conference days and holiday breaks.

- * Have an area in the room where children can go to get away from the stimulation, such as a house, tent, fort, etc.
- * For children who have difficulty with touch, put that child last in line to avoid touching from both sides, or pushing from the back.
- * Be cautious when using multisensory teaching techniques (such as gluing sand or glitter) with some children. Approach these types of activities slowly and playfully.
- * Incorporate movement breaks throughout the day.

Specific Ways To Deal with Sensory Difficulties in the Preschool Classroom

As discussed earlier by Dunn, children respond differently to stimulation based on their threshold for stimulation. Children with a high threshold may be:

- constantly moving,
- hitting or biting other children, or
- may appear disorganized, anxious or frightened

Children with a low threshold may be:

- slow to respond,
- hard to motivate,
- afraid to try new things, or
- appear "lethargic."

Here are some suggestions of things to do:

Problem Area

Common Parent/Teacher Observations Home/Classroom Accommodations

Tactile

Children with a low threshold for tactile stimulation might:

- Have a strong reaction to the unexpected touch or the light touch
- Be a picker eater, eat only a few foods, or not like to mix foods
- Be picky about clothes, may take clothes off, or resist being dressed
- Tell child before touching
- Sit child so other children don't brush against him
- Before tooth brushing, apply deep pressure around mouth with washcloth
- Brush teeth before meal (to relax the child's sensitivity)
- Use all cotton clothing, wash new clothes several times before wearing, use seamless socks

Tactile

Children with a high threshold for tactile stimulation might:

- Be a messy eater, have food all over face, or stuff mouth full of food
- Play "roughly"
- Brush teeth before meal (to pep up the child's oral sensitivities)
- Provide more stimulation, such as squeeze balls, rubbing with towel or other textures
- Provide lots of opportunities for sensory play such as finger painting

Olfactory /Gustatory

Children with a low threshold for olfactory or gustatory stimulation might:

- Strong reaction to smells, perfumes, air fresheners
- Avoid certain types of food or certain textures
- Try to reduce the number of conflicting smells in the room, such as perfumes
- Tell child strong tastes are coming

Olfactory /Gustatory

Children with a high threshold for olfactory or gustatory stimulation might have:

- Decreased ability to taste or recognize different smells
- Difficulty with articulation
- Give the child strong smells and tastes to experience
- Try giving child strong tastes, such as sour, bitter, spicy
- Use cold temperatures

Visual

Children with a high low threshold for visual stimulation might:

- Close eyes or cover eyes frequently
- Squint
- Have difficulty with figure ground activities
- Minimize the number of distractions; decrease clutter on walls and ceilings
- Create quiet area of the room where child can go when overwhelmed
- Avoid bright lights

Visual

Children with a high threshold for visual stimulation might:

- Avoid coloring, puzzles, stacking blocks
- May not recognize shapes or colors
- Put toys on blank table top or white paper to increase contrast
- Use brightly colored materials

Auditory

Children with a high threshold for auditory stimulation might have:

- Strong reaction to fire alarms, PA announcements, toilet flushing, noise outside classroom
- Difficulty distinguishing what teacher is saying from outside noise
- Warn child before loud noise
- Place child in quiet area of classroom

Auditory

Children with a high threshold for auditory stimulation might:

- Frequently asks what teacher said
- Use short, simple directions

Vestibular

Children with a high threshold for vestibular movement might:

- Swing and swing and never stop
- Be moving and rocking all the time
- Allow child to stand at table while working
- Provide lots of opportunities for movement
- Provide recess

Vestibular

Children with a low threshold for vestibular activities might:

- Fear being picked up or tipped back
- Be very sedentary
- Not like to climb, swim, or be off the ground
- Gets carsick from movement
- Avoid quick movements or sudden changes in position
- Open windows of car, position in middle of back seat

Proprioception

Children with a low threshold for proprioceptive activities might:

- Look clumsy
- May hang onto teacher, walk into you
- Provide activities for pouring materials such as beans, rice, etc.
- Play catch with a big ball or pillow
- Give the child lots of bear hugs

Proprioception

Children with a high threshold for proprioceptive activities might:

- Presses really hard when writing or coloring
- Chews on shirts
- Have child carry something heavy, such as books, laundry bag
- Have child press against wall or push chair across room
- Give child something to chew on

The information in this table has been taken from:

Dunn, W. (1999). *The sensory profile*. Tucson, AZ: Therapy Skills Builders. Inamura, K.N. (1998). *SI for early intervention: A team approach*. Tucson, AZ: Therapy Skills Builders.

Kranowitz, C.S. (1998). *The out-of-sync child: Recognizing and coping with sensory integration dysfunction*. New York: Berkley Publishing Co. Miller, H., & Heaphy, T. (1998).

Sensory process in preschool children. Volume 3 of AOTA's Self-Study Series: Making a Difference in School System Practice : A Self-Paced Clinical Course. Bethesda, MD: American Occupational Therapy Association.

Williams, M.S., & Shelenberger, S. (1996). "How does your engine run?" A leader's guide to the alert program for self-regulation. Albuquerque, NM: Therapy Works.

Sensory Processing Resources

Books

- **SenseAbilities (Maryann Colby Trott)**
- **Sensory Integration (Michael C. Abraham)**
- **The Out-of Sync Child (Carol Stock Kranowitz)**
- **Is It Sensory or Is It Behavior? (Carolyn Murray-Slutsky and by Betty A Paris)**
- **The Out-of-Sync Child : Recognizing and Coping With Sensory Integration Dysfunction (Carol Stock Kranowitz)**
- **The Out-Of-Sync Child Has Fun: Activities for Kids With Sensory Integration Dysfunction (Carol Stock Kranowitz)**
- **Parenting a Child with Sensory Processing Disorder (Christopher Auer and Susan Blumberg)**
- **Understanding Sensory Dysfunction: Learning, Development And Sensory Dysfunction In Autism Spectrum Disorders ADHD, Learning Disabilities and Bipolar Disorder (Polly Godwin Emmons, Liz McKendry Anderson)**
- **Raising a Sensory Smart Child: The Definitive Handbook for Helping Your Child with Sensory Integration Issues (Lindsey Biel, Nancy Peske)**
- **Building Bridges through Sensory Integration (Ellen Yack, Paula Aquilla, Shirley Sutton)**
- **Sensory Secrets: How to Jump-Start Learning in Children (by Catherine Schneider)**
- **Answers to Questions Teachers Ask About Sensory Integration (Carol Stock Kranowitz, Deanna Iris Sava, Elizabeth Haber, Lynn Balzer-Martin, Stacey Szklut)**
- **101 Activities for Kids in Tight Spaces : At the Doctor's Office, on Car, Train, and Plane Trips, Home Sick in Bed . . (Carol S. Kranowitz)**
- **Too Loud, Too Bright, Too Fast, Too Tight: What to Do If You Are Sensory Defensive in an Overstimulating World (Sharon Heller)**

Websites

- <http://faculty.washington.edu/chudler/functional.html>
- **SPD Network :-**
<http://www.sinetwork.org/aboutspd/defining.html>
“...a researcher and pioneer of this field, coined the term Sensory Integration Dysfunction. Jean Ayers used the term throughout her professional career (1954-1988) to describe atypical social, emotional, motor, and functional patterns of behavior that were related to poor processing of sensory stimuli.”
- **KID POWER:-**

<http://www.kid-power.org/sid.html>

Making Sense of Sensory Integration: Introduction to SI

<http://sinetwork.org/about> spd

<http://specialchildren.about.com/od/sensoryintegration/>

<http://specialchildren.about.com/od/sensoryintegration/>