

# Sensory and Sensibility



Issue #3

## Vestibular and Proprioceptive Input



### How do the Vestibular and Proprioceptive systems Affect Children's Behaviors?

The *vestibular* system is all about balance and movement....our ability, desire, or avoidance to move through space.

- It is the first to have a organized response to sensory input
- It is the most protected area of the brain
- It has a very close relationship to gravity, safety, survival, arousal, and attention

When your child has an under developed vestibular system, their brain is not getting the correct information from their eyes, ears, the sense of gravity or movement in their bodies. This, in turn makes their brain and body feel unsafe. When they do not feel safe, their arousal level, attention, and survival mode responses kick in.

## Signs of an Under-developed Vestibular System / Avoidance

- Refuses to ride swings
- Won't climb playground equipment
- Scared of movement
- Doesn't like rough-housing
- Overwhelmed or cautious walking down stairs

In more extreme cases, when kids are incredibly fearful of any type of movement, it's called gravitational insecurity because they're literally afraid to leave the ground in any capacity. It's a frightening feeling for kids when they get picked up or are moved unexpectedly.

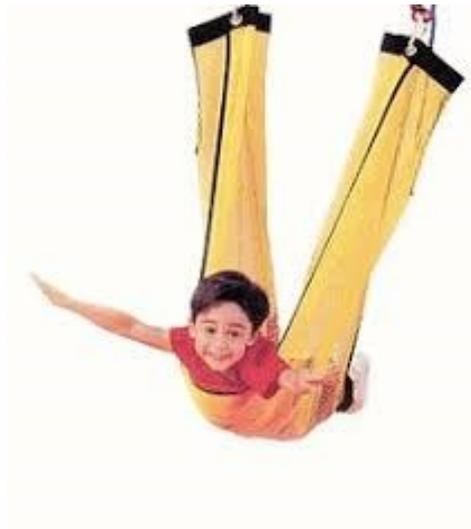
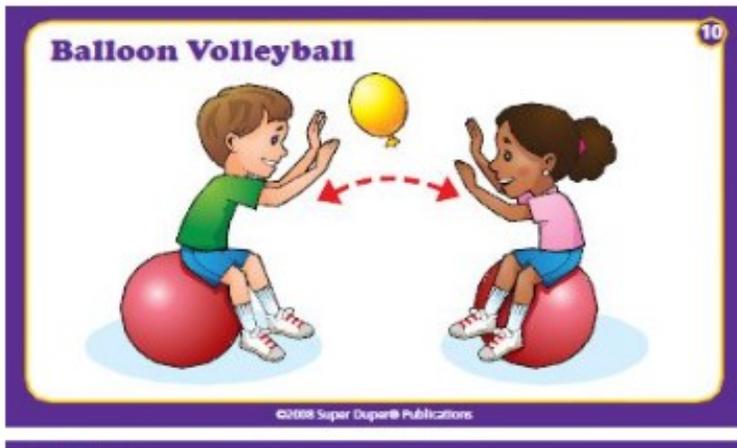
## Signs for Seeking Vestibular Input

This fixation on movement happens because their brain is underprocessing the vestibular input.

- Climbs dangerously high, can't seem to get high enough
- Spins frequently (while standing, on swings, in swivel chairs)
- Seeks out swinging
- Never seems to get dizzy

## Vestibular / Movement Activities

- Jumping on trampoline
- Sit and Spin
- Scooter bards
- Bouncing on large ball
- Dancing, marching, twirling
- Jumping rope
- Slides and climbing on playground equipment
- Create an obstacle course to crawl under, over, through chairs, cushions, pillows, etc.



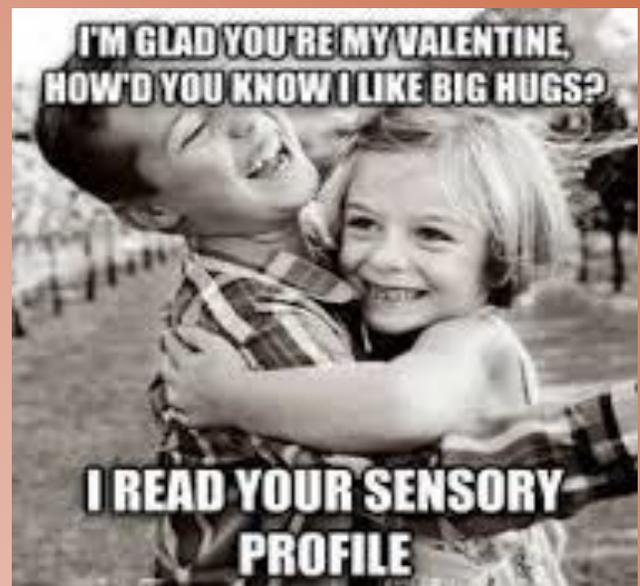
The Proprioception system receives input from the muscles and joints about body position, weight, pressure, stretch, movement and changes in position in space. Our bodies are able to grade and coordinate movements based on the way muscles move, stretch, and contract. Proprioception allows us to apply more or less pressure and force in a task. Instinctively, we know that lifting a feather requires very little pressure and effort, while moving a large backpack requires more work. We are able to coordinate our movements effectively to manage our day's activities with the proprioceptive system.

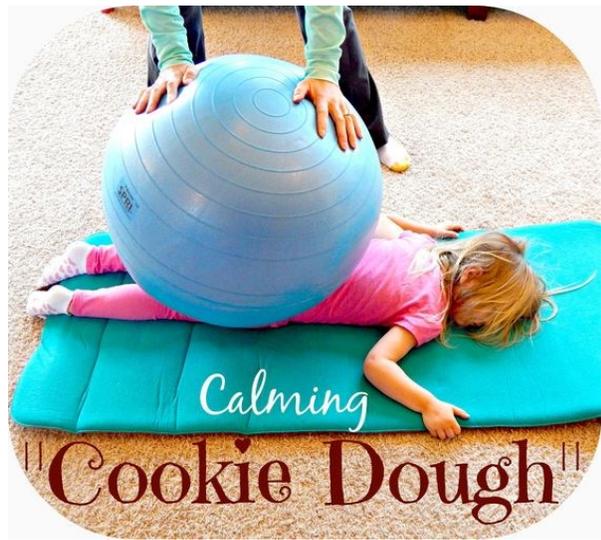
Proprioceptive input can be very calming!

### Activities for proprioceptive input:

- Weighted vest, lap pad
- Weighted back pack
- Bear hugs
- Rolling a therapy ball over the body
- Frog jumps
- Jumping on a trampoline or on a mattress
- Pushing a heavy basket/cart (laundry basket at home or push a cart to deliver books or mail at school)
- Pulling a heavy wagon
- Squeezing or rolling playdough/theraputty
- Climbing a rockwall
- Monkey bars

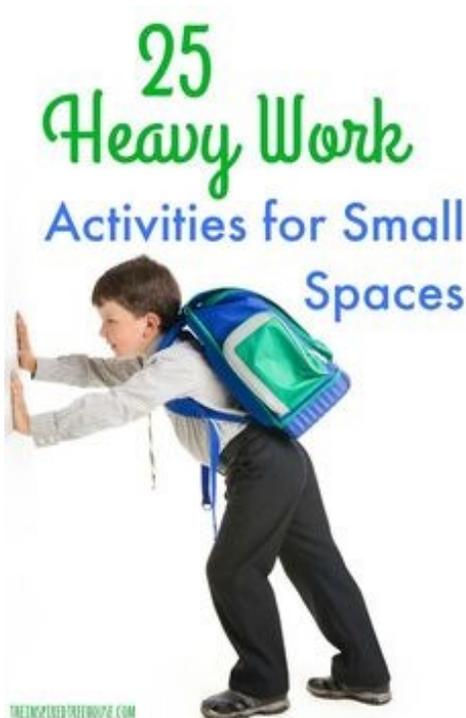
Swimming as a great activity for sensory regulation because of the pressure of the water around the body !





Proprioceptive activities for the classroom that students can do independently:

- Chair Push Ups, Wall Push Ups, Desk Push Ups
- Bear Hugs
- Arm Squeezes
- Carry Heavy Books: Give the child a job to organize or hand out heavy books.
- Wash the desks or boards: The child can apply pressure when wiping the desks.
- Stack or unstack classroom chairs: Classroom chairs are heavy therefore this is "heavy work".
- Jumping in place, jumping jacks or marching in place helps to wake up the leg muscles and provide sensory input.





## Your Therapy Source Magazine

All children benefit from movement throughout the school day. Whether it be brain breaks, multisensory lessons or recess, physical activity helps students get the brain ready for optimal learning. Another option to squeeze in physical activity time during the school day is to assign classroom jobs or chores that require physical activity and proprioceptive input (heavy work). Here is a list of 10 classroom jobs that require physical activity.

1. **Classroom messenger** - student can walk throughout the school to deliver messages from the teacher to the office, other teachers, etc.
2. **Board Eraser** - student is responsible to wash the whiteboards or chalkboards at the end of the day.
3. **Sweeper** - sweep the dust up off of the classroom floor.
4. **Picker Upper** - Bend over, squat or crawl to pick up all the larger items that the broom can not get.
5. **Recycle Duty** - check all recycle bins and bring to proper location to empty bins.
6. **Paper Duty** - pass out and/or collect papers for the teacher.
7. **Book Duty** - pass out and/or collect books for the teacher.
8. **Chair Stacker** - stacks all the chairs at the end of the day.
9. **Mail Duty** - picks up mail from the teacher's mailbox in the office.
10. **Desk Washer** - wipes down the desks.