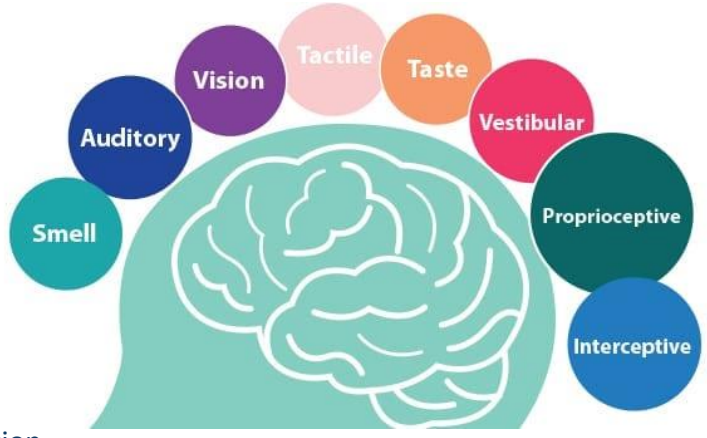
Sensory Processing – The Basics

What is Sensory Processing?

- Sensory processing refers to the process where our bodies take in information from the environment, which is then processed and organized by our brains to activate appropriate motor, behavioural and emotional responses.
- In individuals with intact sensory processing, this process happens automatically, unconsciously, and nearly instantaneously thereby allowing the individual to cope with environmental demands and support their functionality with every day activities.

Sensory Systems Involved with Sensory Processing



- **Vestibular:** Sense of movement
- **Proprioception:** Provides information about where our bodies are in space
- **Tactile:** Tell us *when* we have touched something and *what it is* we have touched
- **Visual:** Visual information is processed by our brains to help us see what we need to see and filter out what we do not need to focus on
- **Auditory:** When we process auditory information our brain has to be able to determine what sounds are important, what sounds can be "tuned out" and locate where sounds are coming from
- **Olfactory:** Sense of smell
- **Gustatory:** Responsible for detecting all the different flavours that come in the mouth
- **Interoception:** Provides us with information about how our body is feeling on the inside. For example, hungry, thirsty, when to void, sad, angry, etc

When Sensory Processing is Working Well

- We are able to match our alertness levels to activity demands
- We are able to manage our emotions according to environmental and task demands
- We have a good sense of our own body, its physical needs and how to move to do what we want to do.
- For example: when you go to pick up a cup or open a door you think is light (but is actually heavy), you automatically, unconsciously, and nearly instantaneously increase the amount of force you are using in order to actually pick it up or open it

When Sensory Processing is Not Working Well

Sensory processing difficulties occur when the nervous system struggles to adequately process the incoming sensory information from the sensory systems and organize it (or "integrate" it) in order to produce the expected motor, behavioral, or emotional responses. It significantly impacts individuals' ability to participate and succeed in the important tasks, activities, and roles of daily life (aka – "occupations").

For example:

- Have difficulty focusing or shifting attention in busy environments like the classroom
- Difficulties with exploring foods due to texture/taste sensitivities
- Uncoordinated body movements impacting the child's ability to participate in activities such as gym class, sports
- Finding dressing challenging due to the feel of clothing

For children with sensory processing challenges, behavioural strategies are ineffective.

Supporting Children with Sensory Processing Challenges

- **Modify the environment and/or activity:** Match activity demands (movement, social, cognitive, language and emotional) to the child's ability.

- **Routine and predictability:**
  - Verbal/visual cues to prepare for transitions**:** Visual schedules, timers, consistency in routines and expectations.

- **Calming Activities:**
  - Movement breaks (ex. Yoga, wall/chair push-ups)
  - Activities involving pushing, lifting, pulling, and carrying (ex. playing with a ball, playing with playdough, stacking items).
  - Deep pressure activities (ex. palm press, arm squeezes, self hugs, head press)
  - Deep breathing (ex. lazy 8 breathing, five finger breathing)
  - Guided mindfulness breaks/meditation (ex. Cosmic Kids, GoNoodle)

- **Alerting Activities:**
  - Movement breaks (ex. going for a walk/drink, marching in place, stop and go activities, dance, jumping jacks, GoNoodle-Fresh Start Fitness, outdoor play)
  - Fast moving, unpredictable visuals (ex. transition animations on power points)
  - Incorporate movement into day-to-day tasks (ex. Demonstrate choice by executing an action)
  - Use brightly colored paper for important handouts/worksheets