

# Sensory Processing

How can this impact  
on the children we  
teach?

**This animation gives the viewer a glimpse into  
sensory overload, and how often our sensory  
experiences intertwine in everyday life.**

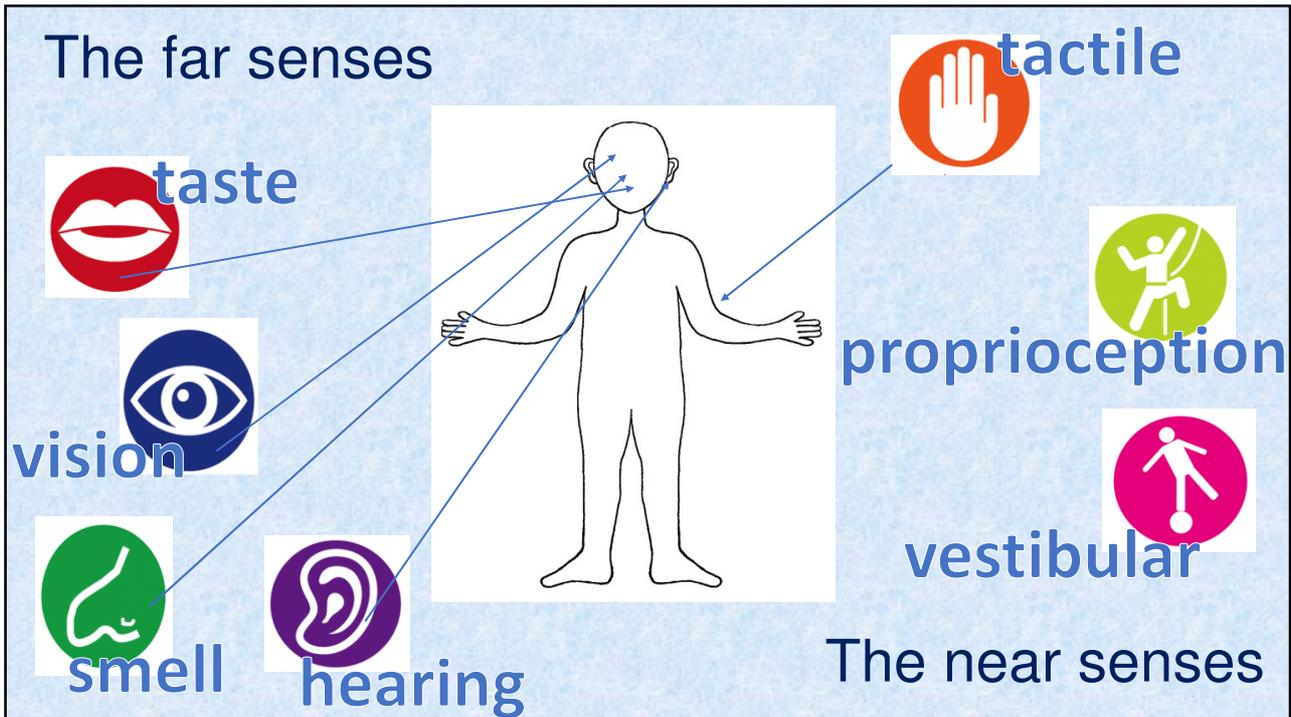
## Aims for the workshop

- To understand the nature of sensory processing difficulties and the impact that they can have in the classroom.
- To have some practical ideas for meeting these needs in the classroom.



- Sensory prediction is very important for helping us make sense of the world around us.
  - Sensory prediction helps us to filter incoming information, by suppressing expected input and amplifying unexpected input.
  - If there is a mismatch between our predictions and our actual experiences, this will cause a level of anxiety.
  - Students with autism, with their known sensory processing differences, may therefore perceive the world as more uncertain and unpredictable.
- An Evidence Based Guide to Anxiety in Autism, Gaigg et al

# The Senses- what are they?



## Vestibular

- Is responsible for detecting movement through space i.e. balance
- It tells us about speed and direction.
- It is intended to correctly identify for us
  - which direction we are facing
  - the direction we are going
  - the angle our head is at
  - whether we are upside down or right-way up



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## Proprioception

- It provides us with information about where a body part is and how it is moving.
- It comes from the sensations from joints, muscles and connective tissues.
- It underpins body awareness.
- For a person with a well organized proprioceptive sense
  - this process is automatic
  - is rarely even thought of



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# Tactile

Light Touch.

- Light touch system can react very easily



Deep Pressure Touch.

- Helps keep the brain focused, clear, and enables us to concentrate for longer

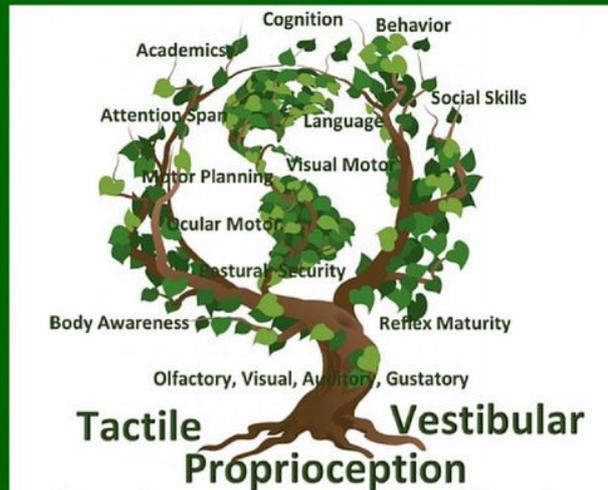
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# Sensory Processing



- Is how the brain transforms information coming from each of the senses into messages we can act upon.
- It enables us to respond to and interact with our environment.
- It is **ESSENTIAL** for every function in life.

**Feed the roots...not the leaves.**



ASensoryLife.com

## Sensory profile

Everyone has a sensory profile which can change throughout the day and according to how we are feeling at any given moment.

We would say that someone has a sensory need if the impact of sensory input (whether through seeking or over responding) means they are unable to carry out everyday activities.

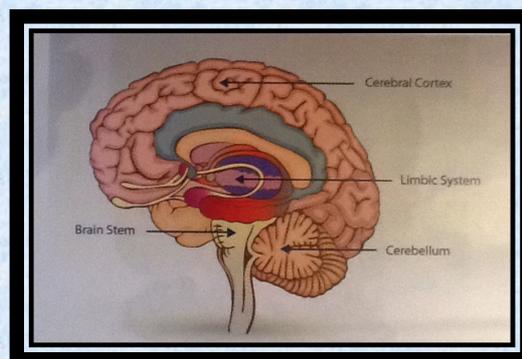
# Our Brain

- Brain Stem
- Limbic System
- Cerebrum / Central Cortex



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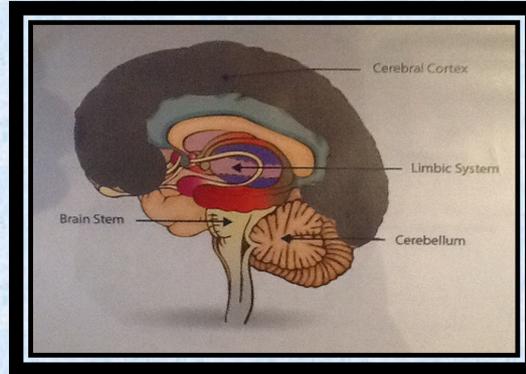
When our brain is working well:



The different parts of the brain all communicate effectively with each other.

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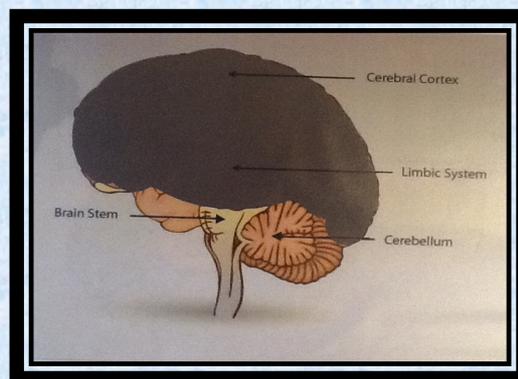
What happens if our emotions are not working well?



We know that if a student has difficulty with their emotional regulation this **can stop them from being able to access their higher order skills.**

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What happens if our sensory systems are not working well?



If a student has difficulty with sensory regulation **this can stop them from being able to regulate their emotions *and* access their higher order skills.**

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# Arousal Levels

- Too high  
- Just right 
- Too low 

- We need to be able to shift our arousal levels to suit the environment, context, task or relationship

## Just-right arousal level

- Will allow adaptive behaviours
- Can be alert yet relaxed enough to be ready to enjoy everyday activities
- Can approach new situations with openness and avoid those that may be dangerous



Functioning in the 'Just Right State' gives us the foundation needed to engage in the basic occupations of life.

## Response to sensory input!

- Sensory seeking

Trying to fill the bucket with sensory input



- Passive

Waiting for someone else to fill their bucket



**Under responsive**



**Just right state**



**Over responsive**

Overloaded  
Avoiding  
Flight  
Fight  
Freeze  
Shutdown

## Under-responders: passive

- A lack of response, or insufficient response to the sensory environment.
- Sometimes these people appear to be day dreaming or unfocused on what is happening around them.
- They may also be un-coordinated and have difficulty with motor skills.



## Examples of passive under responder behaviour:

Day-dreamer – Absences - Disassociation

Weak core – floppy, low muscle tone, 'w' sitting on the floor

Doesn't seem to notice hands or face – seems unaware of light touch

May not be able to distinguish between pleasant and unpleasant odours

Doesn't notice sports injuries, cuts and scrapes

Doesn't notice runny nose

Poor fine motor skills

Chews on clothes

May not consistently respond to name

Distracted by visual stimuli



## Under-responders: Sensory – seeking

- The nervous system of the sensory – seeker needs **intense** input in order for the sensation to be registered properly in the brain.
- Therefore the sensory – seeker craves intense sensations constantly.



**Examples of sensory seeking behaviour:**

Always touching others or things / the fiddlers  
 Craves intense flavour – vinegar, salt,  
 Loves jumping, wrestling, climbing wrestling and crashing  
 Makes his own sound, enjoys silly sounds of others  
 Grinds teeth, cracks knuckles  
 Bear hugs  
 Self-abusive behaviours – pinching, biting, head banging,  
 extreme nail biting  
 Constant motion, swinging, being upside down  
 Thrill seeker  
 Rocks  
 Likes loud music  
 Toe walker  
 Likes strong odours, petrol etc

**Over-responders:**

- An exaggerated response of the nervous system to sensory input.
- For example, people who get motion sickness are over responding to vestibular input (the movement sensation).
- The nervous system goes into fight – or – flight mode even when no real danger exists



**Examples of sensory avoiding behaviour:**

- Over reacts to a light touch such as a peer brushing past them
- Strong reaction to unexpected noises
- Finds the dinner hall difficult – noise and smell
- Limited diet
- Difficulties with hair and nail cutting
- Difficulties with tooth brushing and visits to the dentist
- Avoids movement activities
- Dislikes strong odours, including perfumes and soaps
- Avoids messy play
- Dislikes going barefoot



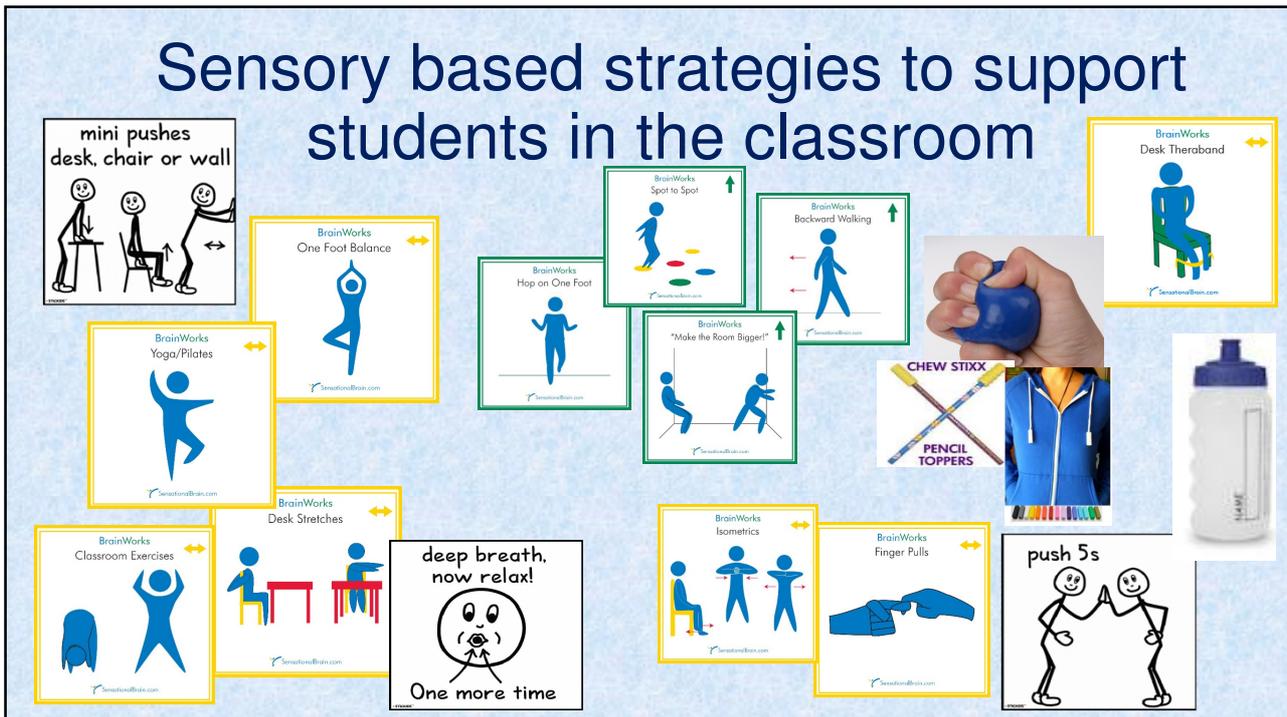
# So ... what can we do about it?



## Sensory based strategies to support students



## Sensory based strategies to support students in the classroom



Of course life is not as simple as we would like! Sometimes we need to look at each individual and their sensory needs in more detail.



There may well be other aspects to a student's experiences that interfere with their learning and well being. However using sensory strategies to get them in a just right state, is often the crucial first step.