Specialist Provision
Complex Communication
& Interaction

Introduction to the sensory toolkit for pupils with complex communication and interaction needs

This toolkit has been prepared by Kirklees Specialist Provision CCI team in partnership with the Sensory Occupational Therapists for Kirklees. It is primarily for use by schools in collaboration with parents for those children and young people with complex communication and interaction needs including autism known to KSP CCI. It is important to note that sensory difficulties may also be associated with other conditions including social emotional and mental health issues, ADHD, developmental delay, DCD (dyspraxia), preterm birth.

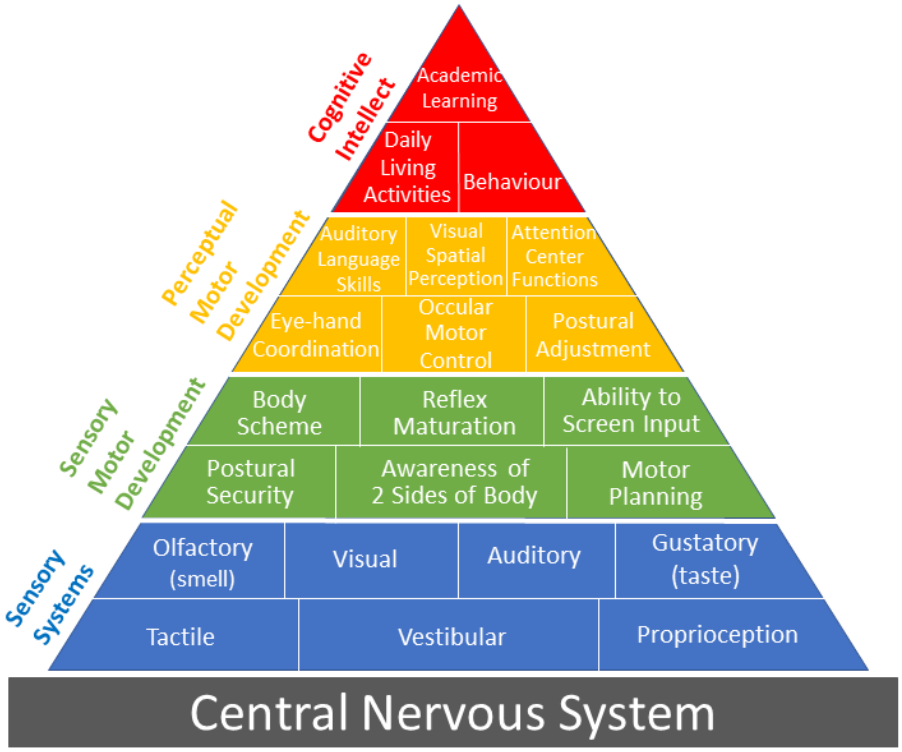
The toolkit comprises:

- This introduction including information on the sensory systems
- Guidance for Schools Graduated Approach CCI (sensory difficulties)
- Individual pupil sensory audit
- Environmental audit and checklist for schools and classrooms
- Sensory passport incorporating
    - How to use and prepare the passport
    - Template
    - Exemplars

How to use the toolkit *(with support from KSP CCI as required)*

1. Read the introductory information on sensory systems in this document
2. Familiarise yourself with the Graduated Approach guidance for schools
3. In conjunction with parents/carers, staff and pupil complete the individual sensory audit
4. Carry out an environmental sensory audit around school and in the classroom(s) including identifying training needs
5. Collate the information you have gathered into a sensory passport
6. Share the sensory passport with parents/carers, pupil and staff working with the child.
7. Review and adapt the passport regularly

Why do the sensory systems matter so much?
The Pyramid of Learning (© Taylor/Trott 1991) below helps us to understand the importance of the sensory systems. They are the foundations needed to achieve daily living activities, behaviour and academic learning.



How do sensory differences impact behaviour?
Some sensory information is sent as alerting information to the brain to alert us to a potential danger, such as fast movements in our vision, and loud noises. This is designed to keep us safe. Sometimes this system is over responsive and alerts us to everything, even when there is no danger, our brains are primed to "**fight, flight or freeze"**.

When the brain is put on alert, it can receive even more sensory information. The resulting behaviour can be distress, aggression, escape or avoiding.

We can use what we know about the neurology to provide sensory calming activities in this instance and change or reduce alerting information from entering the brain in the first place.

How do the sensory systems integrate?
Some of the sensory systems need to work together to help our bodies develop to prepare us for more complex activities.

For example, the vestibular system works with the proprioception system and vision to help us to maintain our posture. It does this by detecting changes in our movements and

direction of travel and makes adjustments to our muscle tone and posture to help us maintain balance.

Some of these connections and relationships are very complex, but allow us to use tools effectively, handwrite, ride a bike, and complete personal care activities. Basically, we need good sensory integration to complete most activities of daily living.

What are the sensory systems and how do they affect us?

Sense	What is it?	Potential differences
Vision	How we make sense of what see with our eyes. Some visual information can be alerting.	• *Hypersensitivity* – sensitive to bright lights or moving objects. • Hyposensitivity – may not notice objects and people. • *Visual perception* – the ability to recognise, discriminate and interpret visual stimuli: - *Figure ground*- The ability to locate shapes which are merged together or hidden in a confusing and busy background, e.g. difficulties finding scissors in a messy drawer. - *Visual closure* - the brain's ability to recognise a familiar item, word or picture when only shown a small part of it. - *Form constancy* - The ability to identify a shape which may be a different size, shade and/or orientation. Pupils with poor form-constancy may frequently reverse letters and numbers. - *Copying* – may have difficulties copying from the board. - *Eye/hand coordination* - Efficient communication between eyes and body. This impacts on writing and PE skills.
Auditory	Physiological process of perceiving sound. Hearing entails the transformation of sound vibrations into nerve impulses, which travel to the brain and are interpreted as sounds.	• Intense hypersensitivity to a specific noises or inability to tolerate everyday sounds. • Inability to separate sounds such as background noise, different voices. • Associating and decoding sounds • Memory of what has been heard • Discrimination between sounds

Taste/smell	Receptors in the tongue let us know about different tastes such as - sweet, sour, bitter, salty, and spicy. We process smells through receptors in the nose. Smell is often the first sense we rely upon.	• Restricted diet/fussy eater • Eat or smell unusual things • Closely linked to the tactile system • May gag/vomit in reaction to smells • May avoid people or places with particular smells

Tactile	Information we feel through the skin. Some people are sensitive to unexpected touch and some types of touch can be very alerting. Some people do not understand their environment through touch alone.	• Hypersensitivity may
		  ○ Cause pain
		  ○ Affect eating / food preferences
		  ○ Cause difficulties tolerating personal care tasks and/or messy play activities
		  ○ Increase arousal levels
		  ○ Contribute to anxiety and avoidance of busy places
		• Hyposensitivity may:
		  ○ Cause people to seek information about their environment through other senses such as mouthing

Proprioception	It is the sense that allows us to know where the different body parts are without looking at them. Proprioception works closely with vestibular and tactile systems to build body map and postural control. It is involved in efficient praxis. Praxis is the ability to carry out a sequence of actions.	▪ Body awareness and postural stability – may seek out push/pull movement. ▪ Praxis is organising yourself to form an idea and put it into an action that is unfamiliar. Praxis includes ideation, motor planning and execution. For children this could be learning to jump. ▪ Grading movement - knowing how much pressure is needed to complete a task (e.g. hold and write with a pencil)
Vestibular	The vestibular system has receptors located in our inner ear. The vestibular system can tell us which direction we are moving and which way up our head is. It is also typically the first of our senses to tell us we are falling over.	▪ Hypersensitivity - May be overly sensitive to the movement and may avoid playground apparatus and unstable surfaces. ▪ Hyposensitivity – May seek out additional movement. ▪ May have difficulties co-ordinating movement. ▪ May have difficulties maintaining postural control and balance.
Interoception (internal)	Interoception gives information regarding the internal state or condition of our body. It is the basis for how we view our feel emotions. It allows us to experience body states which include hunger, thirst, need for the bathroom, pain, sexual	▪ Toileting ▪ Under/overeating ▪ Emotional regulation ▪ Experience of pain ▪ Temperature regulation

	arousal, temperature, nausea, illness, muscle tension.	