

SENSORY PROCESSING

Processing sensory information is essential for each of us to engage in the world around us. Each individual sensory system fulfils a specific role for us, and together all our sensory systems constantly inform our brain about our body and our environment, so we can attend to what is important for us – keeping us safe, or interacting, exploring, mastering. Our sensory processing is very closely linked with our emotional processing and regulation.



Our **Visual System** provides information about who and what we can see around us and can enable us to engage in play and social interactions. It tells us about space, depth, distance, and develops to support hand-eye coordination. It can filter out things we don't need to attend to and can also warn us when danger may be coming and help us respond to it.



Our **Auditory System** provides us with opportunity to hear social and environmental sounds. It helps us to use verbal language to communicate, socially engage, dance, and sing, and to develop a sense of time and space. It can filter out things we don't need to pay attention to and can also warn us when danger may be coming and help us respond to it.



Our **Tactile System** provides us with information about our where our body is. It informs us of touch which may be harmful (sharp or hot), and also helps us to receive nurture and comfort through different textures, temperatures, pressures. It helps us to explore our environment, and to interact with people, food, and objects within it.



Our **Vestibular System** supports our relationship with gravity; where and how we are moving, our speed and direction. It supports our balance, and our self-saving responses. It supports our postural tone; how much our muscles are activated in accordance to what we are doing. This differs depending on our position, and our activity.



Our **Proprioceptive System** helps to create an organised sense of self. It supports our body awareness and helps to grade our force of movement; how tightly we need to hold or push something. It is also a key sensory system for supporting or 'modulating' our levels of arousal, through pushing, pulling, lifting, hanging and squeezing.



Our **Olfactory System** (smell) is important for survival – to recognise safe food, and receive warning signals (such as burnt food, poisons). Our olfactory system bypasses some of the sensory integration systems in the brain and has very strong links with memory. Smells can evoke strong positive (or negative) emotional reactions, dependent on experience.



Our **Gustatory System** (taste) uses taste buds as sensory organs. Taste buds respond to sweet, bitter, sour, salty, and umami tastes, and transmit this information to our brain. This helps with making sure we don't ingest poison or toxins, but also particular tastes activate certain 'pleasure processing' parts of our brain- sweet, salt, and savoury tastes.



Our **Interoceptive System** tells us about what is going on inside our body. Sensations inform us if we are hungry, thirsty, if we need the toilet, if we are hot or cold. It prompts us to take action based on this information, and tells us when our internal systems are balanced, so we can focus on engaging in the external world. It is essential for self-regulation.