

THE

Sensory SYSTEMS



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OLFACTORY: The sense of smell allows an individual to perceive odor and react negatively to noxious smells as a form of protection. This sense allows a child to smell and enjoy food.

AUDITORY: The sense of hearing provides the child with the ability to receive sounds. A child with intact hearing can identify the quality and direction from which the sound is coming. The auditory sense tells us to turn our heads and look. It is also very important for development of understanding speech and language.



TACTILE: This sensory system receives sensations of pressure, vibration, movement, temperature, and pain through the skin. It is broken into two parts, the protective and discriminative. The protective component provides a signal of harmful touch stimuli. The discriminative component provides information about where the body was touched, how light or firm the touch was, and the perception of the shape, size and texture of the object. For example, this sense allows a child to find a coin within their pocket by touch only. The sense of touch provides the body with important feedback for precise, skilled movement and contributes to a child's body scheme. It is known that tactile input early in life has a long term impact on a child's behavior and interpersonal development. The tactile sensory receptors are located throughout the skin.



VISION: The sense of seeing provides the child with the ability to identify and understand what the eye sees. It is critical for learning about shapes, colors, numbers, letters, and words. Vision offers very important feedback to help a child move safely and effectively.



GUSTATORY: The sense of taste allows an individual to enjoy food and causes one to react negatively to noxious tastes as a form of protection.



VESTIBULAR: This sensory system responds to changes in head position and to body movement through space. This sense coordinates movements of the eyes, head, and body to help a child with balance. This sense allows a child to hike along a bumpy trail and kick a soccer ball without falling. It is also important for maintaining tone (or appropriate stiffness) in the muscles and coordinating the two sides of the body together. The vestibular sensory receptors are located in the inner ear and are stimulated by movement and gravity, letting the body know in which direction and how fast it is moving.



PROPRIOCEPTION: The sense of proprioception enables an unconscious awareness of body position. It allows the brain to know where each body part is and how it is moving. This sense allows a child to regulate what direction and how much force to use when moving to successfully grade movement to accomplish functional tasks. This sense allows a child to walk up and down stairs without looking at their legs or feet. This sense is believed to help a child regulate their emotional and behavioral responses. The proprioceptive sensory receptors are located in the muscles, joints, and skin and are stimulated by active movement of the muscles and joints.