

Engaging Sensory Systems in the Garden

Gardening engages all eight of our sensory systems. These systems are the ways in which our bodies receive and process information that, combined, create our awareness of our environment. Multi-sensory experiences like gardening can significantly benefit children's development and capacity for sensory integration and processing.



By regularly engaging all eight sensory systems in manageable doses, children are better equipped to process the sensory inputs they experience in their daily lives and respond to these stimuli in a useful way. Sensory integration, or lack thereof, impacts engagement in all types of meaningful activities that affect the health and quality of our lives. When our eight sensory systems are integrated, we're better regulated and better able to manage our behaviors and emotions.

To learn more about n designing a sensory garden, check out our [Designing a Sensory Garden](#) activity. Looking for ideas about what plants to include in your garden for sensory stimulation? Our [Sensory Garden Plants](#) Growing Guide is a great place to start.

Our Eight Sensory Systems

Visual: The vibrant hues of flowers, the lush greenery of leaves, and the intricate patterns of seeds sprouting offer a visual feast for kids. Seeing changes in plants over time enhances their observational skills and appreciation for the natural world. Choosing plants that offer a [rainbow of colors](#) and a variety of shapes can engage gardeners to seek and enjoy visual variety in the garden space. Host an easy movement activity and ask kids to see how many colors they can find in the garden space and report back! Bring paint chips from your local hardware or paint store and offer them to kids to see if they can find an exact match in your garden space. Challenge kids with a shapes scavenger hunt to see if they can find things in the garden representing a variety of basic shapes, e.g., round stones, heart-shaped leaves, star-shaped flowers, etc.

Tactile: From the softness of petals to the various textures of soil, gardening provides ample tactile stimulation. Handling seeds, digging holes, and exploring plants with hands develop fine motor skills and sensitivity to different textures. Certain plants offer exciting textures, like furry lamb's ear, papery strawflowers, and prickly coneflower. In addition to plants, you can display rough pieces of bark, river-smoothed stones, pinecones, moss-covered branches, and other natural materials throughout the garden to expand this touch-sense opportunity. Or try removing other sensory inputs by creating a mystery box full of textures and have kids reach into it and see if they can identify

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what they're touching based on tactile inputs alone. Try exploring what the wind feels like on a dry versus a wet hand. If you're worried about destructive touching, sharing a gentle two-finger touch with kids can be a great way to encourage them to touch anything in the garden without harming the plants.

Olfactory: The scents of flowers, herbs, and freshly turned soil awaken children's olfactory senses. Our minds are so tuned into smells that one whiff of a fragrance can call up memories from events long ago. Smelling fragrant blooms like lavender or citrus blossoms and gently rubbing herbs like rosemary or mint can help them create these olfactory memories and [enhance kids' moods](#). Helping them to identify different scents also aids in olfactory discrimination. Try adding unexpected scents to your garden that will delight kids and inspire wonder. Plants like chocolate cosmos will have them thinking about dessert, pineapple sage leaves can smell like pineapple or bubble gum, depending on who you ask, and herbs like lemon balm or lemon thyme can be a fun citrus surprise for kids.

Gustatory: Growing edible plants like vegetables, fruits, and herbs introduces children to the joys of tasting fresh, homegrown produce. Sampling herbs like mint or basil straight from the garden teaches them about flavors and encourages curiosity about new foods. Depending on the design of your garden space and the maturity of your young gardeners, it might be best to group and label all the "tasting" plants together to eliminate confusion about what's okay to sample. There are a variety of mints that have fun variations in flavor, like orange mint, apple mint, and chocolate mint, that can be enjoyed with a single snacking leaf or in an [herbal tea](#). Stevia leaves are nearly two hundred times sweeter than sugar and can be a fun, sweet nibble for kids and a great herbal addition to lemonades and other beverages. Nasturtiums offer a zingy, peppery flavor, and other edible flowers like borage offer the simple novelty of eating a flower. Just be sure to share with kids that not everything in a garden is edible, and for sensory gardens welcoming very young children, it may be best not to plant anything with toxic parts.

Auditory: The rustle of leaves, the buzz of bees, and the chirping of birds create an auditory symphony in the garden. Listening to nature's sounds promotes auditory awareness and mindfulness, fostering a deeper connection to the environment. Bird feeders, birdbaths, and insect houses can lure a variety of wildlife to bring natural music to your garden. Water features, such as a softly flowing fountain, can provide a soothing backdrop, perhaps punctuated by the sound of bamboo or metal chimes. Plants like ornamental grasses and flowers or gourds that dry into natural rattles make great additions. Try having kids take a sound walk in the garden to note how many noises they can hear, or choose a sit spot and close their eyes to focus on the sounds they hear and record them in a [nature journal](#).

Proprioception: Gardening involves various physical activities, such as weeding, watering, and carrying pots, which enhance children's proprioceptive sense—the awareness of their body's

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position and movement in space. These activities [improve motor skills](#), coordination, balance, and spatial orientation. Allow kids to engage in “heavy work,” or the actions that require the pulling and pushing of objects like hoisting and pouring watering cans and moving compost with a shovel; these all help to stimulate this important sensory system and can be very regulating. Encourage kids to help with heavy work tasks around the garden with task teams and sign-up sheets, or offer rotations of age-appropriate jobs so they can find the proprioceptive tasks they enjoy most. Getting kids to help with weeding and harvesting also helps them gain control over their strength outputs and learn, for example, how to pull a tomato off a vine without pulling out the entire plant.

Vestibular: Activities like bending to plant seeds or walking along uneven garden paths stimulate the vestibular system—the sense of balance and spatial orientation. These movements develop core strength and contribute to overall sensory integration. Handing out hand lenses and encouraging kids to examine plants from their base to their tops helps them balance their bodies as they change attitudes. Garden tools like child-sized wheelbarrows are great for activating their vestibular system while keeping their cargo level and moving.

Interoception: Engaging in gardening tasks, like smelling delicious herbs before lunchtime, doing heavy work for an extended period of time, or feeling the warmth of the sun on their skin, heightens children's interoceptive awareness—the ability to perceive internal sensations like hunger, thirst, and temperature regulation. This fosters self-regulation and mindfulness of their body's needs. Talk with kids about expressing their needs to you as they come up in the garden. Taking a water or snack break, using the restroom, or pausing to get some shade should be requests that are encouraged to meet kids' needs and help them develop their interoceptive abilities to advocate for those needs. You can try connecting their needs to [the needs of plants and animals](#) in the garden as well!

Gardening is a holistic sensory experience that nurtures children's development on multiple levels. By engaging all eight sensory systems, it fosters curiosity, learning, and appreciation for the natural world while promoting physical, cognitive, and emotional well-being. Whether they're planting seeds, smelling flowers, or tasting fresh produce, children can cultivate a deeper connection to nature and themselves through the simple joys of gardening!