

TH Activity Plan – Playing with Soil, Sand or Water

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ACTIVITY DESCRIPTION: Participants will play with soil, sand or water to experience different tactile sensations.

THERAPEUTIC GOALS:

Cognitive/Intellectual: Experience curiosity; match plastic mold to sand shape

Physical: Use hands & fingers to manipulate natural materials; exercise arms, motor skills playing in materials by pouring, mounding & spreading

Psychological/Emotional: Practice self-initiating breaks as needed; modulate thoughts & behaviors; recognize impulses

Sensory: Expand sensory integration & processing; engage in new or novel sensory experience (without adverse reactions)

Social: Share play table and materials with others; practice appropriate behavior avoiding throwing, spitting or anger outbursts

Materials

Sand table, sand/soil/water

Plastic & other play items

Wipes

STEP-BY-STEP PROCESS:

1. **Pre-Session Preparation:** Set up play table using the materials suited to participants, weather conditions or budget. Cover table when not in use to prevent cats or other animals from getting into it & causing bacterial problems.
2. Facilitator begins session by exciting participants/children about play outside (or indoors) in sand, or soil or water. Rules for playing with others and at the table should be covered, in particular, guidance for cooperative play, trying out new things, touching materials that may cause some discomfort, and avoiding putting anything in mouths.
3. Determine appropriate number of participants at the table at any given time, supervising or working one on one with children who may experience sensory defensiveness, need sensory breaks etc. Gloves may be used where participants experience hypersensitivity, but consideration for therapeutic goals of practicing sensory integration will probably involve not using gloves, or limiting their use.
4. Interact with participants, preferably one on one to assess, manage and guide them re sensory stimulation, integration & how to self-select sensory breaks.
5. Once play session is over each child should be encouraged to clean up area, wash their hands and share their feelings about how the sand/soil felt to them -positive or negative feelings, & their willingness to play at table again with these sensory inputs.

APPLICATIONS FOR POPULATIONS: Sensory integration and processing are challenging for many children. The two terms can be interchanged and are defined as the way the brain receives, organizes and responds to sensory information from the body and from the external environment. Sensory processing is not limited to children.

This TH activity targets children’s developmental skills where sensory integration is important for communication, relationships and behaviors. Sensory play supports language development, motor skills, social

interactions, proprioception and vestibular sense of balance (Fleming & Grimes, 2024). Practicing sensory-motor skills supports child development on many levels – physical, cognitive, and sensory.

Using a form of play to address sensory defensiveness, increase tolerance thresholds, and normalize behaviors can be a fun experience though it has therapeutic benefits. Greg Stivland, OTR/L shares that texture of sand/ soil when it is dry is a completely different tactile experience than when it is moist or wet. Children/adults who experience sensory defensiveness should never be 'required' to engage in an activity that involves novel sensory experiences - many will participate (not 100%), but most will participate if given a modification of using a tool vs putting their hands in the media. Using items like plastic spoons, textured cups, and fabric bags can introduce a variety of textures for participants to explore their level of tolerance, preferences, and ability to adapt and attend to the activity. Repeated exposure to using a tool for scooping sand/potting mix eventually results in clients putting their hands in the soil at some point (which is a wonderful moment).

Facilitator can introduce the concept of the participant determining when they need a break from the sensory stimulation (referred to as self-selecting appropriate sensory breaks), with practice behaving in this manner during this or future sessions. A self-directed sensory break could be washing the dirt off their hands, rubbing their hands together to remove potting mix/sand, or using a hand towel to wipe off their hands.

SAFETY CONSIDERATIONS: Facilitators are responsible for knowing poisonous and toxic plants and plant parts. Clean sand, sterile soil and water changed out regularly ensure safe and healthy materials. Close supervision may be required for children with behavior challenges (throwing sand, putting materials in mouths, aggressive behavior towards others).

NOTES OR OTHER CONSIDERATIONS: With the focus on sensory integration using a play table with natural materials of sand, soil or water, a next step or session could involve touching these materials in gardens or flower containers. Progressing to a garden setting, using spades, spoons or shovels where the materials are re-introduced can provide a sense of accomplishment, hopefully with less sensory defensiveness, more tolerance and increased interest in doing tasks that involve sensory inputs. Promoting executive function and decision-making during the initial session or subsequent sessions can include practice determining when to take sensory breaks, how to use garden tools for soil or sand, or watering plants using hose or watering can. The garden can provide many opportunities to explore a variety of novel sensory experiences as well as functional skills that can be generalized across settings.

A related form of therapy, called sandplay therapy, can shed light on constructs for hands-on activities and therapeutic processes addressing a range of health challenges. It has been used for children (primarily) who have experienced trauma, adversity, neglect, family turmoil and learning disabilities (Psychology Today, 2024).

REFERENCES/ RESOURCES:

AutismCRC. (2024). Sensory-based interventions.

<https://www.autismcrc.com.au/interventions-evidence/category-overview/sensory>

Fleming, L. & Grimes, K. (2024). [Active and passive engagement with plants: Incorporating interoception, proprioception and vestibular senses for therapeutic outcomes.](#) *Cultivate* 4(1).

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Whitehouse, A., Varcin, K., Waddington, H. et al. (2020). Interventions for children on the autism spectrum: A synthesis of research evidence. *Autism CRC*, Brisbane.

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TH Activity Plan form developed by Lesley Fleming, Susan Morgan and Kathy Brechner (2012), revised in 2024.