THAD Therapeutic Horticulture Activity Database

Activity: Design Goal: Psychological Populations: Children/Youth

TH Activity Plan –Milk Jug 2 Mini Greenhouse

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Photos by C. Crowder. Infogram by Skycrest Studios

ACTIVITY DESCRIPTION: Participants will make a mini greenhouse using upcycled plastic milk jugs.

THERAPEUTIC GOALS:

Cognitive/Intellectual: Learn about water cycles & greenhouses; follow facilitator directions for creating a mini greenhouse

Physical: Practice eye/hand coordination working with scissors and tape; practice fine motor skills

Psychological/Emotional: Create something from discarded plastic; appreciate making something useful from garbage

Sensory: Compare materials with different tactile textures (smooth plastic, grainy soil, rough sandpaper); practice sensory tolerance (water, soil)

Social: Work cooperatively in group by sharing materials

Materials

Plastic milk jugs

Washing bucket with soap, scissors, duct tape, markers, sandpaper

Soil & scoops

Seeds

Spritz bottles

Gloves, wipes

STEP-BY-STEP PROCESS:

1. **Pre-Session Preparation:** Gather materials or give prior instructions for kids to bring in plastic milk jugs. Facilitator pokes a hole in each plastic milk jug half way up, large enough for kids to put scissors in, to allow for cutting. Holes in bottom of container can be made for drainage. Remove and throw away or upcycle the container lids.
2. Facilitator begins session by having participants wash plastic jug interiors in warm soapy water. Place in sun to dry.
3. Introduce concepts of greenhouses, mini greenhouses & the session's activity while jugs dry. Session will include planting seeds in soil in the upcycled mini greenhouse. These are most often used for sowing seeds in winter (see resources below).
4. Greenhouse concepts can include: different environments for growing seeds (hoop house, carts with lights); plants' growth cycles.
5. Starting with the pre-cut hole, using safety scissors, participants cut around all four sides leaving 3 "attached to the container just below the handle" – creating a hinge. Use sandpaper for rough edges.
6. Fill the container with 2 – 3 inches of soil. Moisten soil. Identify drainage holes & the need for them.
7. Read a seed packet, talk about conditions required for germination, types of seeds being used & days to germination.
8. Place seeds on top of the premoistened soil. These may be placed 1 – 2 inches apart depending on the type & size of the seed. Sprinkle soil on top of seeds. Gently spritz water over the "planted" seeds.
9. Participants use markers to write their name, seed type & planting date *inside* mini greenhouse (writing fades on exterior).
10. Gently press the top of the gallon container back in place along the cuts. Place duct tape all around the container resealing it.
11. Move containers to sunny spot, removing plastic lid for air circulation. Condensation will occur.

APPLICATIONS FOR POPULATIONS: Children of all ages including youth will enjoy this activity that can be a platform for environmental stewardship and upcycling, education re water cycle, greenhouses and plant cycles, in addition to therapy. Goals in therapeutic domains can address particular challenges of individual children or groups in classrooms, support groups, treatment centers, after-school programs or (specialized) camps.

A focus on upcycling, creating something from discarded plastic and/or appreciating making something useful made from garbage can address psychological goals of new beginnings, beauty and function possible in all things and people, these concepts made less abstract using plastic milk jugs. For children with sensory challenges, eye hand motor skill deficits and/or fine motor issues, touching the materials will provide exposure to a variety of textures and opportunities to practice sensory tolerance (facilitator may use gloves with some participants), and physical functioning of hands, eyes and arms. Children with weak social skills can work towards improving interactions within the group by sharing materials, assisting or partnering with others holding the jug in a stationary position to make taping easier.

This activity is applicable for most populations across age demographics. Adaptations for safety related to cutting/poking holes, cutting or pre-cutting sticky duct tape, and securing tape can be made for physical, mental or cognitive challenges to promote inclusion and accessibility.

SAFETY CONSIDERATIONS: Facilitators are responsible for knowing poisonous and toxic plants and plant parts. Facilitator should poke starting hole for scissors and drainage. Safety scissors should be used by participants. For populations that may be tempted to put seeds or soil in mouths, facilitator can use one on one techniques, or choose other activities for upcycling or greenhouse concepts.

NOTES OR OTHER CONSIDERATIONS: This TH activity can be structured and delivered to emphasize various elements of horticulture and plant care. Depending on intellectual/cognitive abilities, the segment making the greenhouse might be quick paced, with more time for intensive plant information and hands-on seed planting. Winter seed sowing in a mini greenhouse can use metaphors associated with seed starting encompassing themes such as fresh starts, strategic planning, fostering hope, embarking on transformative journeys (from seed to bloom), and establishing a link to the future. An important nature element - the innate knowledge of seeds—they instinctively "know when" to germinate in winter and summer depending on conditions, can be explained to all ages.

REFERENCES/ RESOURCES:

Jabbour, N. (n.d.). Video: Winter sowing & milk-jug greenhouses. [YouTube]. https://shorturl.at/cyQW1

Markson, J. (2021). Native plant seeds are ideal for winter sowing. Nurture Native Nature. https://www.nurturenativenature.com/post/native-plant-seeds-are-ideal-for-winter-sowing

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TH Activity Plan form developed by Lesley Fleming, Susan Morgan and Kathy Brechner (2012), revised in 2023.