

NHSA & Scotts Miracle-Gro Foundation's GroMoreGood Garden Grant Program

STEM Learning in the Garden - March 19, 2024



Webinar Agenda

- Welcome
- STEM Learning in the Garden— KidsGardening
- Grantee Spotlight— Head Start on Healthy Living Project at Tidwell
- Grantee Spotlight— Rooted Hearts Garden - Community Action Program of Western Indiana Head Start
- Closing Q&A

Welcome

This webinar series is a collaboration between NHSA, The Scotts Miracle-Gro Foundation and KidsGardening to inspire and support the growth of garden programs for young children.



For more information, visit:

<https://nhsa.org/gromoregood-garden-grants/>



About the Partners



STEM Learning in the Garden

Sarah Pounders and Noel Nicholas
KidsGardening



Benefits of STEM Learning in the Garden

- Hands-on, experiential learning
- Relevant and practical activities
- Connections to the natural world and food origins
- Inspiring inquiry and exploration
- Fostering a sense of excitement, and joy
- Gardens offers a plethora of interdisciplinary experiences



Align to Early Learning Outcomes Framework

- Connect to existing goals
- Use garden as a tool to enhance what you are already teaching
- Domains/goals can guide lesson/activity choice
- Or activities can be linked to domains/goals
- Central Domain: Cognition
 - Mathematics Development
 - Scientific Reasoning



Science

- The garden is a living science lab. Provide intro to:
 - *Life Science*: plant parts, plant needs, life cycles, plants look like their parents, plants adapt to their environment
 - *Earth Science*: weather & climate; natural resources, soil, water cycle
 - *Ecology and Environmental Science*: plant and animal relationships to each other and their environment, biodiversity
 - *Engineering & Technology*: gardens solutions, garden structures, rain gardens, green roofs, hydroponics
 - *Physical Science*: Plants make their own food

Science ELOF Goals to Target

- Sensory exploration and observation
- Science vocabulary
- Comparing and contrasting
- Engaging in experimentation
 - Predictions
 - Investigations
 - Data collection
 - Analyze results
- Problem solving
- Observation of relationships in the garden
- Introduction to natural cycles including seasons



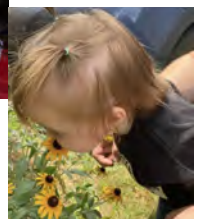
Math ELOF Goals to Target

- Apply practical pre-math to real life situations
- Counting
- Matching and sorting
- Collect data and display results
- Observation of patterns
- Measure using standard and nonstandard measurement tools
- Basic shapes



Sensory Gardens - Explore and Observe

- [Sensory Garden Plants](#)
- Engage all the senses with intentional plant selection.
- Lamb's ear, mint, basil, strawberry, stevia, ornamental grasses, money plant, sunflower, zinnia, and so many more!



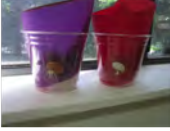
Patterns

- Fruit and vegetable snacks: Turn snack time into a learning opportunity with kids ordering carrot sticks, strawberries, etc. into patterns.
- Nature Mandalas: Give kids time to create [mandalas](#) by placing natural objects from the garden in geometric patterns.
- Flowers, seeds, leaves, stones, etc. also make for great natural and sensory stimulating pattern making materials!



Seed Viewers - Easy Experiments

- [Seed Viewers](#)
- Plant bean seeds in clear plastic cups to allow students to see beans sprouting
- Materials needed:
 - Plastic cups (can be washed and reused)
 - Construction paper
 - Paper towels
 - Soup bean seeds
 - Water
- Experiment examples:
 - Place in cool location like a refrigerator
 - Do not add water



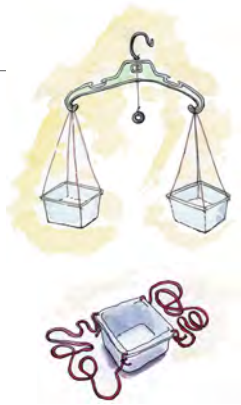
How Does Your Garden Grow?

- Lots of opportunities for measurement
- **Size: Height, Length and Width**
- Fast growing plants: tomatoes, squash, cucumbers, beans, sunflowers
- Non-standard measurement: string/ribbon



How Does Your Garden Grow?

- **Size: Weight**
- Make your own balance scale - *Math in the Garden*
- Materials Needed:
 - Plastic coat hanger with metal swivel hook
 - Two identical plastic food storage containers
 - Four 18 inch pieces of string
 - 12 inch piece of string
 - Heavy washer
 - Drill
- Compare weight of objects in the garden



Pumpkin Play

- Guess and then count the seeds
- Conduct a sink or float experiment
- Measure pumpkins with string
- Weigh different size pumpkins
- Watch it rot!
- Have a November pumpkin smash and make compost



Plant Part Math: Leaves

- Shapes: Hunt for and/or sort leaves by shape
- Area: how many blocks can you fit on a leaf
- Size: Order leaves from smallest to largest



Plant Part Math: Seeds

- Counting: large seeds are best (acorns, beans, sunflower, pumpkin)
- Area: how many seeds can you fit in a shape
- Size: Order seeds from smallest to largest
- Sorting: Ice cube trays work well



Plant Part Math: Flowers

- Counting: Use flowers/petals as a counting tool
- Sorting: Sort flowers by kind/color/size
- Chart/Graph Results



Useful Tools to Support STEM

- Journals or clipboards & writing implements
- Magnifying glasses
- String
- Blocks
- Small buckets
- Ice cube trays
- Egg cartons
- Kid-friendly trowels



Additional Support Resources

- Gardening with Kids Basics Seasonal Gardening Toolkit
- Gardening with Kids Basics Academy Course



Program Spotlight: Head Start on Healthy Living Project at Tidwell

2023 NHSA Gro More Good
Garden Grant Recipient



Gardening Project at Tidwell Head Start – Friday April 21, 2023

Jamese Stancill, *Assistant Director of
Education and Operations*
Pamela Jones-Lee, *Education and
Special Services Manager*

Houston, Texas



How Did We Use the Funds?

- Transformed an open space in the front of the building into a garden at our Tidwell Early Head Start and Head Start campus by using three 8 ft. X 8 ft. cedar raised garden beds.
- Purchased gardening materials and supplies.
- Purchased fruits and vegetables to plant.

Strategies Used to Engage Staff and Families?



Events to Engage Students and Families



A KICK-OFF EVENT WHERE FAMILIES, STUDENTS, AND STAFF FILLED THE PLANTER BOXES WITH DIRT, PLANTED SEEDS IN PLANT CONTAINERS AND PLANTER BOXES, AND PAINTED HANDPRINTS ON THE PLANTER BOXES.



HOSTED A CAMPUS HARVEST FESTIVAL THE WEEK BEFORE THANKSGIVING BREAK TO FEATURE FRUITS AND VEGETABLES GROWN IN THE GARDEN.



HOSTED A PARENT CHILD FOOD SCIENCE FAIR TO CONNECT STUDENTS' EXPERIENCE TO THE FOODS THEY HAVE GROWN IN THEIR GARDEN WITH THE FOODS THEY EAT AT HOME.

Obstacles the Garden Program Faced

Staff turnover

Garden Project Impact

Students were fascinated with growing their own food.

Students were more interested in eating fruits and vegetables during mealtimes.

Student language toward healthy eating increased.

The events had the community excited to be involved.

Families were excited to participate in a healthy cooking activity with their child/children.

Students were proud of the garden.





Tidwell Early Head Start/ Head Start



Ms. Lennie & Ms. Caldwell FHS - 1

Tidwell Early Head Start/ Head Start



Ms. Okoboye & Ms. Webster FHS - 2

Tidwell Early Head Start/ Head Start



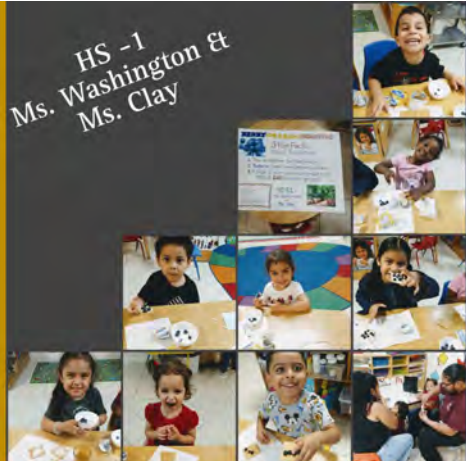
Ms. Bell & Ms. Johnson FHS - 3

Tidwell Early Head Start/ Head Start



Ms. Francis & Ms. Lazalde FHS - 4

HS -1
Ms. Washington &
Ms. Clay



Tidwell Early Head Start/ Head Start



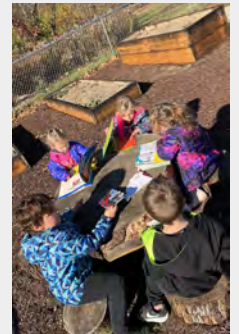
HS-2 Ms. Swan & Ms. Roberts

Questions

Program Spotlight:
Rooted Hearts Garden
Community Action
Program of Western
Indiana Head Start

JJ Payton, Center Manager
Fountain and Warren County,
Indiana

2023 NHSA Gro More Good
Garden Grant Recipient



Our garden process started with the extension of our playground fence. We had a large grassy area that was not being used, and we thought "what better way to utilize this space, than to plant our garden beds". After getting several estimates, we were able to put a fence around an additional 28 X 46 square foot area. This would allow for ample space for our new garden beds!



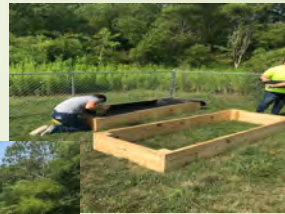
Next, we began with some good old fashioned wood, hammer, and nails. With the help of some of our community friends and former Head Start families, our nine beds were beautifully put together.



TEAMWORK



MAKING
MEMORIES



After the 9 beds were completed, they were lined and ready for the soil!

Thank you to:
Adam and Jon
from the Purdue
Extension office,
Ms. Kim, and a
previous Head
Start family, the
Payne family!



The next step was to fill the boxes with dirt!! And boy oh boy, was there
A LOT of dirt!



Thanks to our friends from the
Housing crew!!



Thank you to our Community Action Friends, Ms. JJ and
Ms. Kim, for all of your hard work and dedication!!



Thank you to our friends from CARS (Child-Adult Resource Services INC)
We appreciate all of your continued help and support!



Thank you to Ms. Kim, Toni, and our friends from Boone County Head Start!!!



Thank you to our friends from Parke County Head Start, North Vermillion Head Start and Montgomery County Head Start!

The process of extending our fence took quite a bit longer than we had anticipated. This would then delay our ability to plant. However, by the end of summer break, we had everything ready to go. We have been utilizing the space as often as possible. In our gardens' sitting area, the children have been talking all about our future planting plans.



Right now, we use the garden area as a nice place to read. Soon we will have our own little outdoor library box, that will be filled with books about gardening and plants!



In November, we dedicated one of our garden beds to a student we had for the previous 2 years. Heavenleigh Dream passed away in August, and we were grateful to be able to honor her with this lovely purple flower bed.

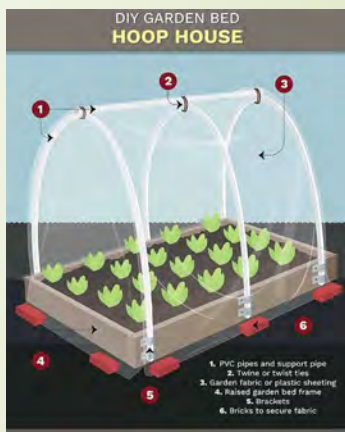


With the cold weather here in the Midwest, our garden project has been put on hold. Our future plans for the garden will begin in March. We will be purchasing plant warmers and starting seeds in our classroom. We have our friends coming over from the 4H Purdue Extension office, to help us begin the process, in which we will be planting seedlings in cups, using a homemade irrigation system. We will be inviting our families to join us, so that they are able to learn how to do this at home.



After our seedlings are grown, and the weather warms up, we will be able to transfer our plants into our garden beds to watch them grow! We will be inviting all of our families to help us with this process.

In addition, we are also planning to use grant funds to get rain barrels for watering, as well as, materials to help create a greenhouse to protect our plants from harsh weather. We will be using materials that could be easily obtained by our families, so that they are able to use these ideas for gardening at home!



Questions?



Garden Story Time: Summer!

*Wednesday, May 8, 2024
1:00 PM Eastern Time*

Scan the code below to register

GroMoreGood Gardening with Kids Basic Course

- For early educators interested in bringing gardening to their programs! Gain a basic understanding of how to get started as well as guidance on how to sustain the project.



Webinar Library

Check out ALL of our amazing GroMoreGood webinars!

- Fun and Easy Ways to Use Sensory Gardens
- Learning from Head Start Gardeners
- Fall in the Head Start Garden
- Therapeutic Value of Gardening for Children
- **And more!**



Thank you!

If you have any questions, please email
gardens@nhsa.org