THE EDUCATION FUND

FOR EXCELLENCE IN MIAMI-DADE PUBLIC SCHOOLS

2017-2018

Ideas with IMPACT

idea packet

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Humana Foundation

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Tools, Teepees, and Trellises

Tools, Teepees, and Trellises

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Goals and Objectives

Language Arts

LAFS.K12.W.1.2: Write informative/ explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

Mathematics

MAFS.K12.MP.5.1: Use appropriate tools strategically.

MAFS.3.MD.2.4: Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.

Course Overview

An expert gardener teaches you how to build trellises, arbors and teepees with your students. Learn basic garden construction and become a DIY champ! There are many ways to create basic garden structures for edible plants to grow on. Start with a basic teepee and work your way up to an arbor! This is a project that students will never forget.

Through hands-on, simple construction activities, students learn geometry, measurement, proportion and exercise their critical thinking skills. Students will be able to create their own designs and models of plant support structures. They will also collaborate to build a full scale structure for their edible school gardens. Students are able to explain, in writing, the necessity for a support structure for certain edible plants and how those plants have adapted to climbing.

This project challenges students to be creative with their resources while encouraging them to grow food and beautify their school. Students deepen their understanding of plant science while learning mathematics and language arts skills! You will be able to expand your garden in less time with these simple techniques.

Step by Step Instructions

This project will teach your students resourcefulness and math skills. Make a simple arbor design with your students to personalized your garden. After learning these simple building techniques, you'll be ready to build more structures like fences, trellises and much more!

Step 1: Gather Your Materials

Use either dried wood or fresh, green wood to make twig structures. For dried wood, predrill holes before nailing twigs together. Many types of sturdy wood will work for this project including bamboo and citrus.

Here's what you'll need to build an arbor:

A variety of harvested sticks and twigs, metal stakes, utility wire, Nails or screws, Hammer or screw drivers, drill, loppers, pruning shears, bolt cutters (for cutting off ends of screws or nails)

Step 2: Assemble Two Side Frames

Create two rectangular frames, one for each side. For each frame, lay two 7-foot-long sticks parallel. attach one stick 5 inches from the tops of the two poles, another 10 inches from the bottoms, and the third in the middle. Next, nail two 60-inch-long sticks in an X shape on the bottom half for stability.

Tip: Don’t place screws too close to edges

Step 3: Add Decorative Branches

Use some of the decorative branches to create an attractive pattern on each side frame. The branches add an aesthetic element and provide a trellis for vines to climb the arbor.

Tip: Select nail / screw sizes based on the branch thickness

Step 4: Assemble the Top

To create one triangle for the top, assemble two 4-foot-long sticks into a peak. Attach the remaining ends of the same two poles 5 inches from the ends of the third 4-foot-long pole -- the base of the triangle.

Assemble a second triangle atop the first one, making sure the two are aligned.

Step 5: Decorate the Top

Add decorative sticks to embellish the gables. Trim excess branches and bend/ cut any exposed nail tips.

Step 6: Assemble the Arbor

Fasten one side panel facing up to top triangle with its decorative side facing out. Set the other side up and nail it to the other end of the top. Place the second gable in place and nail from the inside of the arbor. Use two 60-inch-long sticks to form an "X" between the two gable pieces; before nailing them in place, step back to judge whether the arbor is square.

Step 7: Add Roof Slats

Prop up the bottom of the arbor with a block. Attach the first 40-inch-long roof slat in the middle of a top piece. Nail additional slats along one side, spacing slats 6 to 8 inches apart. Step back to check that both sides are parallel, then nail roof slats to the second gable. Add more slats on each side of the top. Cut off any excess.

Step 8: Install Corner Braces

Stand the arbor upright. Add 18-inch-long sticks for corner braces to the front and back, making sure the sides are parallel. Check for any nail tips that might be sticking out and cut or bend them.

Step 9: Add the Finishing Touches

For added support, drive four metal stakes into the ground next to the legs of the arbor. Attach the legs to these stakes with utility wire.

Tip: Extend the life of the arbor by spraying it with a protective clear coat or painting.

Resources

http://www.bhg.com/home-improvement/outdoor/pergola-arbor-trellis/rustic-simple-arbor-ideas/
Ideas for building rustic arbors

https://www.lowes.com/creative-ideas/lawn-and-garden/trellis-ideas/article
Ideas for designing trellises

https://themicrogardener.com/how-to-make-bamboo-tepee/
Tips for making a simple bamboo teepee

https://www.pinterest.com/pin/131448882855459960/
Beanpole teepee ideas

https://www.youtube.com/watch?v=rIzH91NkhkM
Video on building a trellis

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FOR EXCELLENCE IN MIAMI-DADE PUBLIC SCHOOLS

Apply for an Ideas with IMPACT Adapter Grant!

All Miami-Dade County public school teachers, media specialists, counselors or assistant principals may request funds to implement any project idea, teaching strategy or project from the 2017 Idea EXPO workshops and/or curriculum ideas profiled annually in the ***Ideas with IMPACT*** catalogs from 1990 to the current year, 2017-18. Most catalogs can be viewed on The Education Fund's website at educationfund.org under the heading, "Publications."

- Open to all K-12 M-DCPS teachers, counselors, media specialists
- Quick and easy reporting requirements
- Grants range from $150 - $400
- Grant recipients recognized at an Awards Reception

To apply, you must contact the teacher who developed the idea before submitting your application. Contact can be made by attending a workshop given by the disseminator, communicating via email or telephone, by visiting the disseminator in their classroom, or by having the disseminator visit your classroom.

Project funds are to be spent within the current school year or an extension may be requested. An expense report with receipts is required by Friday, June 1, 2018.

APPLICATION DEADLINE: December 13, 2017

Apply online at educationfund.org

For more information, contact:

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