New Jersey Institute of Technology

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Farmer's Tower

Admin STEM for Success
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Hillside Cooliage - farmers tower

Submitted by: Natalie Wilson

Name of activity: farmers tower

Age/Grade range: ~7+

STEM discipline(s): critical thinking, design

What topic does this activity relate to? Creative building

Pre-activity / Pre-work (what students should know or prepare before doing engaging in this activity; what teachers need to prepare before leading the activity)**:** N/A

What should the students learn by the end of this activity?
Critical thinking, design, and teamwork

Tools/supplies needed (indicate quantity and if it needs to be bought + price range): paper, toothpicks, and candy pumpkins

Total price (indicate per class or per student): $0.50 for 250 toothpicks, ~$10 per pound of candy pumpkins

<u>Step-by-step instructions on how to conduct the activity (attach link if found online and make note of modifications for your class here): (Include e.g., size of groups, images of materials or people doing the activity that might help the reader lead the activity, helpful supporting materials)</u>

Prompt: A farmer needs our help! He needs to build the tallest tower/structure possible so he can look at his garden and scare away any animals that are eating his crops. The farmer only has wood planks and pumpkins to build his structure!

1. Give each student/group of students a piece of paper to plan their design for how they can make their tower as tall as possible.
2. After planning, give each student/group toothpicks and candy pumpkins and allow them to start building

During activity:

<u>Number of students present:</u> 17

<u>What modifications had to be made to the lesson plans and why (if any)?</u>
N/A

<u>Provide feedback: teacher observations, specific student feedback, work products:</u>
Teacher observed high engagement and interest from the students

Post-activity (reflection):

<u>What aspects of the activity worked well?</u> The students were very engaged in the activity

<u>What can be improved on?</u> Instead of using hard candy pumpkins, use jelly pumpkins or something similar sothe toothpicks can be placed easier; make sure students/groups do not share their plans before all groups have a design because students struggled to have unique designs after seeing other groups' designs

<u>What suggestions do you have to adjust the lesson for different purposes or populations?</u> For younger students, have them work in groups; have an additional challenge aspect by have students try to limit the materials they use and still make it as tall as possible

<u>If money was spent on tools/supplies, in your opinion, was the investment worth it?</u> yes

<u>Provide thoughts on alternative materials, steps or other modifications that might be worthwhile for others to consider.</u> For older students you can change the prompt to be more detailed or something that may be more interesting for older students

<u>Additional notes:</u>