

Building a Tower of Gratitude: *Engineering Challenge*



by

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STEM ACTIVITY TOWER OF GRATITUDE

Educator: Ana Soares

Position: 5th grade Portuguese teacher

Vendor at AAC: Staples

Items purchased: Colored index cards

Objective of this STEAM activity:

Students can build a structure using index cards.

Materials needed:

- Index cards of different colors
- Tape
- Pencils, pens or markers to write with
- Brief description of the activity implementation:
- Build a tower of gratitude using index cards and tape.

Activity guide:

1 - Using Thanksgiving as our theme for our STEAM challenge, students will think of things they are grateful for and write them on index cards. Each student can get 3 to 5 index cards and write one thing they are thankful for in each one of them.

2 - Group students in teams, 4 to 5 students per group.

Together they need to use their cards to build a tower, called tower of gratitude. The tower needs to be/have:

- Sturdy (stand by itself)
- Tall (at least 10 in tall)
- Good aesthetic (beautiful, creative, elegant...)

We presented some time frames so students could organize their thinking and work: - 5 min to manipulate the index cards and try structures that could be more sturdy - 15 min to actually start building the tower

3 - Presentation and evaluation

Each team will have 2 min to present their tower to the class. In their presentation, they needed to mention:

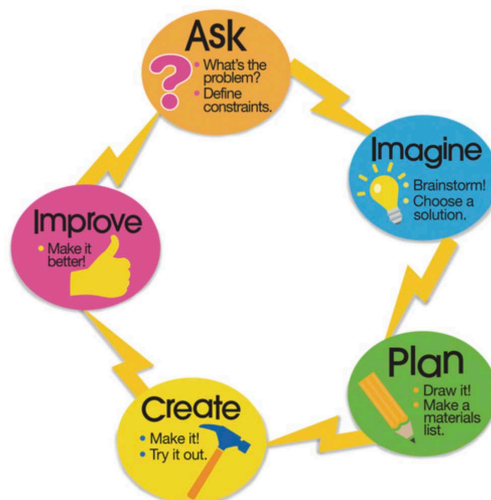
- Why they chose that particular structure
- Things that went well during planning and building
- Things they could have done differently
- One thing they were grateful for (regarding the activity, classroom experience or any other they would like to share with the class)

Applicability:

This activity could be replicated in any grade. From first to sixth grade in Elementary school, they could all benefit from it, working together to build engineering structures.

Tips:

1 - It would be beneficial to introduce the engineering design process before the activity, so they could intentionally go through each step of the process, while making decisions and solving problems.



Source:

<https://www.enasco.com/p/Engineering-Design-Process Magnets%2BTB26532>

2 - STEAM activities can always be integrated with specific themes, celebrations and other events throughout the year. This one was integrated with Thanksgiving, but it could also be easily connected to other dates and themes.

3 - For older students, we could increase the complexity of the activity by adding other criterias: increasing height, adding the need for the tower to support some weight, increasing building time to create more complex structures...

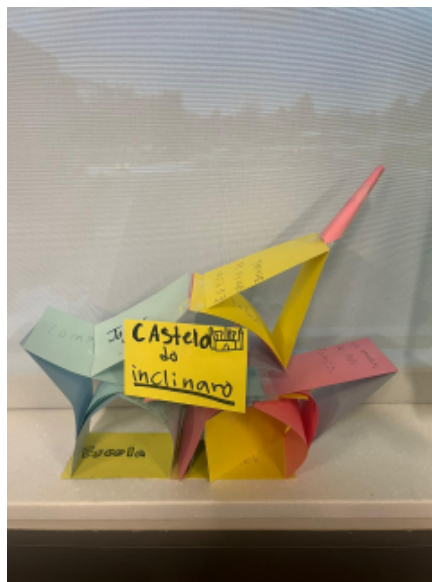
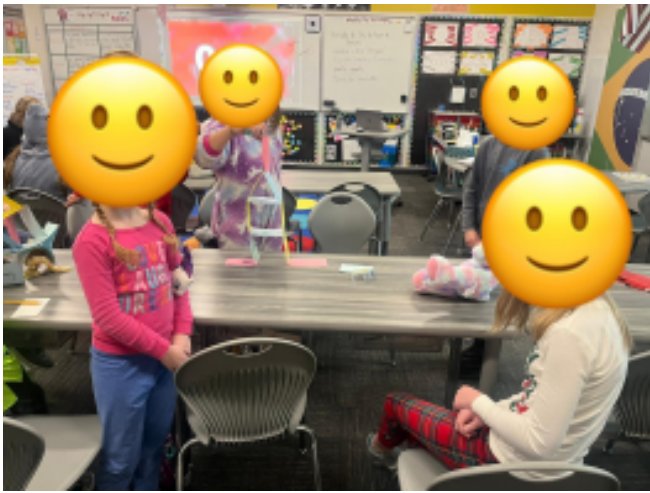
4 - We could improve their engineering design by integrating some art-with paper concepts (paper sculpture techniques), as folding, cutting, rolling... These paper structures could be more sturdy, appropriate, or creative to the tower.



Source:

https://www.artbarblog.com/art-and-play-activity-guide-for-learning-at-home-week-3/paper_sculpture_chart/

Pictures of the activity:



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