Towering Above 2021:
Paper Tower Building Challenge
Virtual Engineering Competition

Competition Overview:

Test your creativity and your engineering skills with this design challenge. Students will build a paper tower from simple supplies of standard construction paper and scotch tape. This competition is open to all **NM MESA middle and high school students**.

Materials: The only allowable materials are as follows.
- 12-(2" x 12") strips of standard construction paper (not cardstock)
- Maximum of 1 Roll-Standard Scotch tape
- Scissors (For use in construction, not to be used in final design)
- Ruler/Measuring Tape (For use in construction and submission, not to be used in final design)
- Writing Utensil (For use in construction, not to be used in final design)
- Submission Template-Available on NM MESA Event Site (to be completed and submitted)

FOR MOST CREATIVE AND SCHOOL SPIRIT CATEGORIES ONLY:
- Allowable decorative materials that can be added to tower: stickers, glitter, sequins, beads, feathers, natural objects (leaves, grass), cotton/puff/pom balls.
- Allowable materials that can be used to color tower: paint, markers, colored pencils, crayons.
- Glue Gun/glue-only to adhere decorative materials. Glue cannot add structural integrity to the tower.

Divisions:
- Middle: Grades 6-8; High: Grades 9-12

General Rules:
1.) Students must complete the work without assistance. This includes team entries, teacher, family, or parent help.
2.) Students may only submit one tower and must select one category for entry (listed below).
3.) If students participated in the 2020 Challenge, they must submit a different tower AND submit in a different category.
4.) Only specified materials may be used.
5.) Paper strips can be cut and/or resized from the original 2" x 12" strip shape.
6.) A connection is defined as a place where (2) or more pieces of construction paper meet.
7.) Each connection shall consist of no more than one inch of tape.
8.) Tower must be free standing (not attached to another structure or secured to anything else).
9.) Tower must have the student's name and school visible on the design.
10.) The original tower must be available for presentation during final interviews if the tower design advances to finals.
11.) All submissions must be free of profanity, inappropriate, or vulgar language and/or images.
12.) Students must answer all questions in the submission form template including the required written submission (see templates for word requirements). The quality of the written submissions are important. Include STEM terms and concepts as able and appropriate.
13.) Towers must have a minimum height of 5".
14.) A Tower may be disqualified at any time in the competition for:
   a. Receiving assistance in the build of the tower.
   b. Using additional materials or un-allowed materials.
   c. Not completing the entire submission template.
   d. Not following the general or event rules.

Specific Category Rules:

Tallest Tower:
1.) Measurement should be taken from the base of the tower to the highest point.
2.) At least (1) picture in submission MUST include a measuring tape marker for height comparison.
3.) Measurement must be taken/given in inches.

4.) *WRITTEN SUBMISSION QUESTIONS:* What STEM concepts and/or design strategy did you use to make your tower tall? Why did you choose your design (Include rationale and any design challenges)?

School Spirit:
1.) A school logo may be added to the tower.
2.) The logo is the only additional paper that may be added, but cannot be used to structurally support the tower.
3.) Any decorative materials added cannot add to the structure/stability of the tower.
5.) *WRITTEN SUBMISSION QUESTIONS:* How is your school spirit reflected in your design? Why did you choose your design (Include rationale and any design challenges)?

Most Creative:
1.) Any decorative materials added cannot add to the structure/stability of the tower.
2.) *WRITTEN SUBMISSION QUESTIONS:* What does your tower represent to you? Why did you choose your design (Include rationale and any design challenges)?

Technical Design:
1.) At least (1) picture/drawing in submission may include labels indicating key design elements.
2.) The labels SHOULD NOT be included on the tower itself but on the image in the submission template.
3.) *WRITTEN SUBMISSION QUESTIONS:* Describe the technical elements you included. Why did you choose your design (Include rationale and any design challenges)?

Event Judging:
1.) Submissions will be judged between the dates of December 7-10.
2.) Final scoring criteria is dependent on quantity and quality of submitted towers, but will be based upon these guidelines.
3.) The submitted template is IMPORTANT. Incomplete submissions will not be considered and they are a LARGE part of the final placement.
4.) Judge decisions are final. Final scores are dependent upon entire submittal.
5.) Category finalists (up to the top 5 scoring towers in each category) will be notified by December 10. Finalists will also be posted to the event site.
6.) Category finalists will advance to a final round of interviews to determine 1st-3rd place. All finalists will be required to submit a release form for participation in final round interviews.
7.) Final round interviews will be conducted via Zoom between December 13-16. Interviews will be scheduled in 10 minute intervals and a final interview schedule will be provided.
8.) Final round interviews are not open to the public. Only the student, event staff, and judges will be present on the zoom session.
9.) Winners will be announced via Zoom on December 17, 2021 at 4PM. Details will be provided to all event participants.

Event Prizes:
- 1st Place per category, per division: $75.00 Gift Card
- 2nd Place per category, per division: $50.00 Gift Card
- 3rd Place per category, per division: $25.00 Gift Card

Event staff reserves the right to add additional amount(s) and/or award(s). Awardees will be given a choice of gift card type. Gift cards will be distributed electronically.

Event Procedure and Submission:
- Students are required to complete the submission template for the category they are entering. Submission template will collect student information, required picture(s), and written submission.
- The submission template MUST be saved as a .PDF document WITH the student's first name, last name, and school name in the document title. DO NOT SUBMIT as a Google Doc, it MUST be saved as a PDF.
- *Submission deadline is <u>December 7, 2021 at 5 PM</u>.* Late submissions will not be accepted.
- To submit: Student must visit the event website and click "REGISTER". Student will answer required questions and upload the required PDF submission template.

Event Questions:
- Anita Gonzales, anita@nmmesa.org, 505-718-9517: Registration, submission, logistics, event questions
- Event Website: Contains all event information, templates, submission link, documents, link, and more. https://www.nmmesa.org/event/towering-above-virtual-engineering-competition/