

Activity Paper Table Challenge

Introduction:

How do you determine what the best solution to a problem is? There are many ways to solve a problem. Sometimes those problems might be simple, like if your remote isn't working, you might need to replace the batteries. Sometimes the problems are more difficult and require months or years to solve. Either situation can be solved using the same process. Engineers and designers utilize something called the “**design process**” to find solutions to problems. Through this activity you will work with a team to quickly come up with a solution to a problem.

Challenge:

Create a paper table that can hold a book (*or other known weight*) at least 6 in off a surface. Design a solution using no more than 20 pieces of newspaper and 7 feet of masking tape.

Equipment:

- Paper
- Pencil

Materials:

- Scissors (not to be consumed within the design)
- Books (or other known weight, not to be consumed within the design)
- 20 pcs News Paper
- 7 feet Masking Tape

Procedure:

In teams of 3-4 use the materials provided to design, build, and test a structure capable of supporting the largest number of books (or other known weight).

Brainstorming (5 minutes). During this time your team will generate as many ideas as possible. Team members may inspect the materials at this time. That means you will not cut, bend, tear or otherwise alter your supplies at this time. As a team you will determine which ideas to pursue. (put thought in how you selected the “best idea.”)

Build (15 minutes). You may now alter your materials. Build the device making sure to note necessary changes to your original ideas as they present themselves.

Trial (3 minute). Each team will have an opportunity to test their designs ability to support the book (or other known weight).

Redesign (10 minutes). Using the knowledge, you now have from testing work with your teammates to redesign and rebuild your structure.

Present (3 minutes). Each team will present out what went right and what went wrong with their design.

Scoring:

Scores are based off the following criteria:

Design: Up to 10 points for design **creativity**

Team Spirit: Up to 10 points measuring how well the team works together

Test Results: 1 point if it successfully held the weight

Conclusion:

1. How did your team **handle ideas** presented during your brainstorming time?
2. Did testing your design lead to design modifications?
3. After this design challenges what do you feel are the most important qualities of a successful team?