

The Engineering club had to create a structure. Bridges have it. Spider webs have it. Houses have it. A skeleton has it. The chair you are sitting in has it. They all have structure. Structure is how materials work together for strength. Since technologists first started building and producing structures to solve many of their day to day problems, there has been a constant effort to make less material do more work. Technologists take what materials are available, process them and assemble them in such a way that they will perform work efficiently. Limited supply, excessive weight, limited resources or access to those resources have always been problems to overcome in the building of a structure. With that in mind you are going to build a structure to solve a specific problem.

OBJECTIVE

Develop and construct a platform that will support the weight of a concrete block.

MATERIALS (Per Group)

1. 4 - Index Cards
2. Masking tape (3 inches)
3. White glue

TOOLS

1. Scissors
2. Ruler

LIMITATIONS

1. Students may only use the materials provided.
2. The platform be within these specifications:
Height - 1/2" to 1" tall
Width - 2 1/2" to 3" wide
Length - 4" to 5" long

For this challenge students were allowed to work individually or in groups of up to four. They were all able to construct a platform using only the provided materials. Two teams were able to build a structure that held both concrete blocks. 65 pounds supported off the table by only four small index cards.

Five teams were eventually awarded prizes as designs were modified, improved and tested to failure. There was healthy competition and peer involvement and critique of the other team's designs. Several teams went through several design iterations.

ENGINEERING CHALLENGE PAPER PLATFORM



