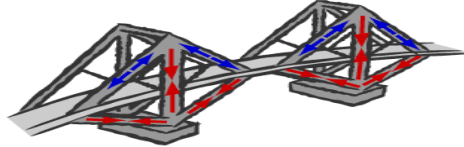




The Straw Challenge

Name: _____ Level: I or II (circle one) School: _____

A cantilever is a common structure studied by engineers. A cantilever is a beam structure supported only at one end, much like a diving board. Two joined cantilevers form a bridge, such as the famous Tower Bridge in London. Consideration must be given to compression, tension, temperature and wind conditions, and weight during the construction of a cantilever.



A truss bridge (showing forces) using cantilevers

Objective

The challenge in this activity is to construct the longest (horizontally) cantilever beam within the allotted time. Teams will be given scissors, tape, and straws to construct the self-standing/supporting cantilever. The team that constructs the longest cantilever will be the winner.

Rules

1. _____ Each team will consist of no more than two members.
2. _____ No materials, other than what is given, may be used for the cantilever. The materials that will be given are scissors, 24 inches of masking tape, and an 24 straws.
3. _____ The Cantilevers must be self-supporting or they will be disqualified.
4. _____ The cantilever must not sag lower than 6 inches from the surface of the table.
5. _____ The back most edge of the cantilever must not be further than 8 inches in from the edge of the table. The tables will be marked with this distance.
6. _____ No more than 6 pieces of tape 2” long may be used to attached the structure to the table. The anchor tape is part of the 24 inches of masking tape
7. _____ Teams may enter the contest only once.

Contest

1. Each team will be given a bag containing the allowed materials for the cantilever.
2. Once all the bags have been distributed, each team will have 20 minutes to construct their cantilever.
3. After 20 minutes, all remaining materials will be collected. Judges will measure the length of each cantilever and will disqualify those that do not meet the requirements.

• Judging:

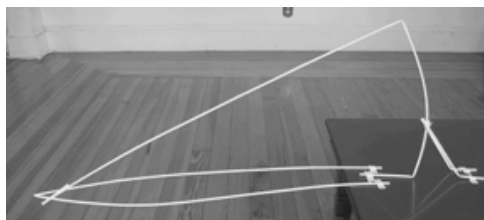
The team with the longest cantilever that **does not sag lower than 6 inches** from the surface of the table and meets the above rules will be declared the wins. _____ **Cantilever Length**

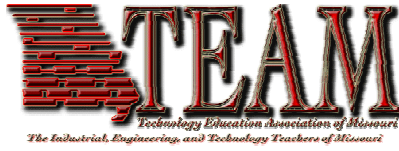
Any rules violations will result in disqualification or a 0

In case of a tie, pennies one at a time will be loaded on the end of the cantilever, and when one sags below the 6” limit, the other will be declared the winner if equal pennies have been added.

If the 1st tie breaker fails to

Entrance Ranking: _____





If there are any questions, please send email to smcnaught@cassville.k12.mo.us