

# Imagine the Possibilities

***Cardboard Beam Contest  
E-Day High School Competition  
Herff College of Engineering  
The University of Memphis  
16 November 2007***

The competition is designed to test the ingenuity of the team in an unconventional material to develop an engineering structure.

The winning team will have \$200 donated to their sponsoring school or class. The second place team will get \$100 donated to their sponsoring school or class, and the third place team will get \$50 donated to their sponsoring school or class.

To register your team and to get event times, please visit the Web site at

[www.engr.memphis.edu/EDAY2007](http://www.engr.memphis.edu/EDAY2007)

THE UNIVERSITY OF  
**MEMPHIS**<sup>®</sup>  
Herff College of Engineering

**Explore Engineering.**

Herff College of Engineering  
Friday, November 16, 2007  
9 a.m. until 6 p.m.  
Engineering Administration Bldg.

# Imagine the Possibilities

## *Cardboard Beam*

The objective of this project is to develop the strongest cardboard beam as measured by the strength-to-weight ratio (SWR).

The strength of the beam is the ultimate load recorded during testing.

Material for the beam may be any type of cardboard that is not reinforced with any other material.

The beam may be built up using any common glue readily available at a local hardware store.

A list of materials used in the construction of the beam must be submitted with the beam before testing.

As shown in figure on the next page, the cardboard beam must be 30 inches long, 6 inches height and have a prismatic cross-section. The shape and dimensions of cross-section of the beam must be constant at any point along the beam.

The maximum width of the beam is 6 inches.

The figure also indicates the loading points and the supports.

Beams which meet all the above qualifications will be scored according to the following formula:

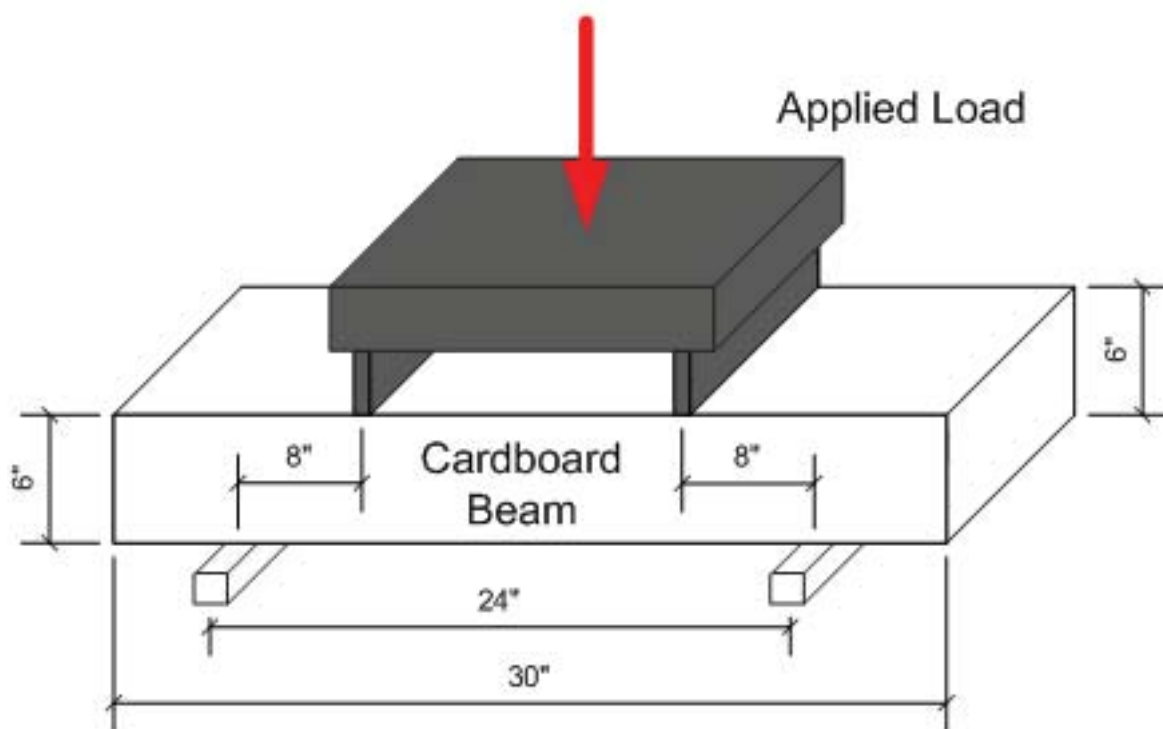
$$\text{SWR} = (\text{Beam Load at Failure (lb)}) / (\text{Beam Weight (lb)})$$

Please send any questions about the competition to  
Dr. Charles Camp  
[cvcamp@memphis.edu](mailto:cvcamp@memphis.edu)

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