

EVENT 3: Lightest Support Tower

(Dated 10/1/2016)

OBJECTIVE: To build the lightest tower that can support a one (1) kg mass.

RULES:

- a. The tower is to be designed and built by the team and brought to the competition. It can be constructed using any material. No helium balloons, or other materials may be used to decrease the weight of the tower.
- b. The tower must have a **minimum** height of 0.75 m and a **maximum** height of 2.00 meters.
- c. The tower must support a 1 kg mass. The mass will be a standard slotted 1 kg mass measuring 9.50 cm in diameter and 2.30 cm thick.
- d. The top of the tower must have a platform that can hold the 1 kg mass.

COMPETITION AND SCORING:

- a. The judge will mass and measure the height of the tower before the 1kg mass is added.
- b. The team will place the mass onto the platform of the tower without the tower collapsing or appreciably shrinking, (i.e., The tower must not decrease in height by more than 20.00 cm when the mass is added).
- c. The tower must support the mass for 10 seconds without causing the tower to shrink, (see rule b). A tower that cannot hold the mass for 10 or more seconds will be disqualified and receive the minimum points 20. Those towers passing the time test will be scored relative to the lowest mass tower.

$$\text{SCORE} = \frac{(\text{Lowest mass})}{(\text{Your mass})} \times 100$$

DISQUALIFICATION SCORE: 20 points minimum score for a qualifying tower.

Updates to the rules and frequently asked questions with answer are available by e-mailing the event organizers at jvalente@ctemc.org. It is the team's responsibility to periodically inquire about changes and clarifications to the rules.