Micro-Mass Tower 2016

Objective

To construct a tower from paper and tape to support a stack of ten quarters at the greatest height.

Materials

The only materials that may be used to build the tower are:

Grades 5--9

Standard 8.5 x 11 inch copy paper found in schools.

(The thickness of the paper is measured on the package as 20 lbs.)

Standard 1-inch wide masking tape found in schools.

Grades 10--12

Standard 8.5 x 11 inch copy paper found in schools.

(The thickness of the paper is measured on the package as 20 lbs.)

No tape may be used.

Construction

1) The paper and tape may be folded and cut in any shape and the materials may be attached to each other in any way.

2) The total mass of the tower must be between 10.00 and 20.00 grams.

Competition

1) Two students may be involved in the set-up of the tower.

2) The tower must be free-standing (supports itself when placed on a flat surface). The tape and paper must not be used to stick to the floor or any other object.

3) A cylindrical roll of ten quarters stacked on top of each other and wrapped in plastic tape must be supported by the tower. The tape may stick to the roll of quarters. The coins may not be separated from the stack.

4) The tower must remain standing unaided for ten seconds.

Judging

1) At the contestant's signal, the judges will begin the ten second count and then measure the height of the top of the stack of coins. The tower must not move during the ten seconds except for air currents. (The intent of this rule is to eliminate entries that begin the process of collapse during the ten seconds.)

2) Two 2-minute trials will be allowed. Students will be allowed two minutes to set up the tower during each trial. A different tower may be used for the second trial.

2) The height of the top of the stack of quarters divided by the mass of the tower (as measured by the judges) will be the score. (Height / Mass = Score)

3) The score for the best trial will used to rank the entry.

Judges:

Katherine Lin / Richard Montgomery High School Email: Katherine_A_Lin@mcpsmd.org

Amy Ferguson / Montgomery Blair High School Email: Amy_Ferguson@mcpsmd.org

Website: www.mcps.k12.md.us/schools/woottonhs/Science/finalfront/