Chopper Challenge

Description: Contestants will build and test 3 choppers (rotary flying devices), using only the materials provided at the competition. Students will be provided pencils, a ruler/straight edge, scissors and other materials to build the 3 choppers.

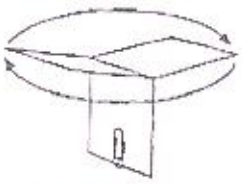
Number of Participants: 3 **Approximate Time:** 45 minutes

The Construction:

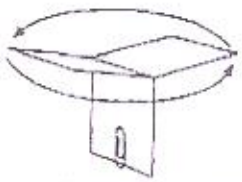
1. Each team will be given one sheet of 8 ½ X 11 inch 60-90 lbs. card stock and 3 standard paper clips to construct 3 choppers that use rotation to slow their descent.

2. Each chopper must be made using a single piece cut from the sheet of cardstock provided and one paper clip. The pieces for the 3 choppers need not be the same size and shape.

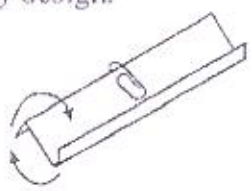
3. Each chopper must rotate in a different direction, as shown below, and they must be labeled with the direction they are intended to rotate. The drawings only illustrate the direction of rotation. The choppers may be any design.



Clockwise Rotation



Counter-clockwise Rotation



Vertical Rotation

4. Contestants may test their devices in the building area but will not be allowed to test them from the official drop location.

The Competition:

1. When it is their turn, contestants will release their choppers, one at a time, from the height specified by the judges. All teams will release their choppers from the same height.

2. The judges will measure and record the time required for each chopper to reach the ground/floor. Time will continue if the chopper bounces off an object, but will stop if the chopper gets stuck and stops.

3. A chopper's flight time will be divided by 2 if it does not rotate in the direction labeled.

Scoring:

The team's score will be the sum of the flight times for all three choppers. Longest total time wins. Tie will be broken by comparing each team's single longest flight times.