

AERODYNAMICS

Description: Build paper airplanes for greatest flight duration and length/accuracy.

Number of Participants: 2

Competition:

1. Each team member receives two [2] pieces of copy paper and approximately five [5] cm of masking tape. Scissors will also be available.
2. Each member constructs her/his own airplane - using at least one sheet, but not more than two, which will bear a resemblance to a winged object. No designs like a helicopter are permitted.
3. One plane will be used in Part I and the other plane will be used in Part II.
4. Each plane is launched by hand by its maker from a predetermined starting point for each part of the event.

Part I: Duration of Flight

1. The purpose of this part is to construct an airplane that will stay in the air the longest amount of time.
2. If two planes are used at once [i.e. in a piggyback fashion], the recorded time will be for the plane which is aloft for the shorter duration.
3. The time aloft will cease when:
 - a. A plane becomes lodged in a permanent fixture [e.g. light, seat, etc.]
 - b. A plane touches the auditorium floor or stage floor [sliding time is not counted].
 - c. It ceases moving in air or hits a hanging obstacle.

Part II: Accuracy and Distance of Flight

1. The purpose of this part is to construct a separate airplane that will fly accurately through targets and travel the longest distance.
2. The distance will be determined:
 - a. From the point of launch to the point where the plane initially touches the ground.
 - b. Distance traveled by the plane by sliding along the floor will not be counted.
 - c. This will be measured to the nearest centimeter.
 - d. Determination of the landing point by the judge is a final decision.
3. Two targets made from hula-hoops will be erected. Bonus points will be awarded for each hoop through which the airplane passes during its flight.

Scoring:

1. The winner will be determined by combining the scores of both parts as follows:
 - a. Part I: The time in seconds multiplied by 100
 - b. Part II: The distance in centimeters plus a bonus of 20 points for each target through which the plane passes.
2. Tie Breaker: Team with the longest time aloft in Part I.