

### ***First in Flight***

1. **DESCRIPTION:** Teams will design, construct and fly two paper airplanes.
2. **NCSCoS ALIGNMENT:** Grades 3-6 Science: Science and Technology, Science as Inquiry
3. **TEAM OF UP TO:** 2
4. **MAXIMUM TIME:** 60 min.
5. **TEAMS:** Must bring scissors, a ruler, a writing instrument, and safety glasses.
6. **EVENT LEADERS:** Must bring construction materials (**see 9.c.**), stopwatches, long tape measures, and score sheets.
7. **SAFETY REQUIREMENTS:** Must wear safety glasses while in the flight area.
8. **IMPOUND:** No
9. **THE COMPETITION:**
  - a. Teams will build **onsite two paper airplanes.**
  - b. **The airplanes must have wings. Using a paper ball as one of the planes is not allowed.**
  - c. The following materials will be provided by the event leader at the competition site:
    - i. Four standard-size sheets of copy paper,
    - ii. Two standard size #1 paper clips, and
    - iii. 20 centimeters of 1/2-inch Scotch tape
  - d. One paper airplane should be designed to fly as far as possible. The other airplane should be designed to stay in the air as long as possible.
  - e. Teams may make up to **two official flights** using each paper airplane.
  - f. Teams will be given a five minute "Flight Period", starting when they enter the flight area to launch their official flights. Participants may make adjustments/repairs to the paper airplanes between flights however; time for such adjustments/repairs will be part of the five minute flight period.
  - g. One airplane should be designated as the "distance plane" and the other as the "time in the air plane". The "distance plane" will be measured in meters to the nearest tenth of a meter from the starting line to the point where the plane first touches the ground (not to the final resting place if it slides) for each flight. The "time in the air plane" will be measured in seconds to the nearest tenth of a second for each flight. Time in the air begins when the plane leaves the team member's hand and stops when any part of the plane touches the ground or floor. Preferably three timers should be used and the middle recorded time will be used for scoring.
  - h. **Each airplane must be launched by one person (the thrower) throwing the airplane unaided from a reasonably static position behind a marked starting line. A run-up or fast walk as part of the launch is not permitted. The thrower must attempt to keep both feet on the ground during launch. The thrower must not follow the airplane after release. The thrower must wait until called by the Event Leader to retrieve his/her airplane. Violating any part of this rule will result in a score of 0 for that official flight.**
10. **SCORING:**

Ranking will be determined by summing the longest distance for the "distance plane" (in meters to the nearest tenth of a meter) AND the longest time in the air (times 5) for the "time in the air plane" (in seconds to the nearest tenth of a second). For example, if a team's "distance plane" best distance is 23.2 meters and its "time in the air plane" best time in the air is 4.6 seconds the teams score would be:  $23.2 + 4.6(5) = 46.2$ . **Tiebreaker 1 will be the longest single distance flight. Tiebreaker 2 will be the longest single time in the air flight.**
11. **EVENT RESOURCES:**

<http://www.sciencenc.com/event-help/FirstinFlight.php>