Demonstration Aerospace Contest

A fun way to learn about aerospace and integrate technology into 4-H projects. As technology changes, use the following information to adapt for your demonstration contest.

General Contest Information
The 4-H Flight Simulation Contest includes a simulated flight and a multiple choice quiz. The flight event is a virtual air rally (approximately 60 minutes) using Microsoft Flight Simulator 2000 software.   The contest has an entry level class and an advanced class. The entry-level class consists of teams of two and the advanced class consists of teams of three.

Multiple Choice Quiz
The written part of the contest consists of thirty questions about aerospace science, aerospace history, and software operation. The team score will be the total of the team members' scores.

Contest Format
The flight part of the event is based on **Microsoft Flight Simulation 2000** using mouse and keyboard controls. We will not use joysticks.   In general, the flight part of the event includes take-offs with a specific aircraft from specific airports, flight to specific destinations and landings of the aircraft. Times for takeoff and landing will be given. Points are deducted for crashes and for landing early or late. Each team member must fly the aircraft for at least one task of the event without other team members touching the keyboard or mouse. One of the team members records flight data as required by the class and task. The team will determine team member assignments. Maps of the flight area are provided to teams. Teams are allowed to practice with the contest computers for 30 minutes prior to event.

Classes
Teams self-select into a class. Prizes are awarded winners of the advanced class. Ribbons are awarded for the entry class winners. Entry-level class participants fly from and return to the same airport. The advanced class teams take-off, fly to and land at a circuit of airports. The software may record the flight so the judges can review the flight. For the advanced class, the flight record may be compared with several random log entries. Points may be deducted for a log entry that does not match the flight record.

Example of Entry-Level Tasks
The number of tasks, points, and task specifics may be changed for the actual event. The example is a two task event. Each task is worth 25 points. All points are lost for a task if the aircraft crashes. The gametime or location can not be reset once the event is started. If the landing times are within five minutes before or five minutes after the specified landing time no points are deducted.   Two points are deducted for each minute or part of a minute for landings before or after the ten minute landing window.
- Task 1- At noon (gametime), takeoff from Spirit of St Louis Airport, St Louis, Mo in a Cessna 183. Fly around the St Louis Arch and return to the Spirit of St Louis airport landing at 1pm (gametime).
- Task 2- At noon (gametime), takeoff from Quincy Airport, Quincy, Ill in a Cessna 183. Fly twice around the City of Quincy, return to the Quincy Airport landing at 1pm (gametime).

Example of Advanced-Level Tasks
The number of tasks, points, and task specifics may be changed for the actual event. The example is a three-task event. Each task is worth 25 points. All points are lost for a task if the aircraft crashes. The gametime or location cannot be reset once the event is started. If the landing times are within five minutes before or after the specified landing time no points are deducted.   Two points are deducted for each minute or part of a minute for landings before or after the ten minute landing window. A flight log

consisting of gametime, compass heading, airspeed, GPS location, estimated distance to destination, estimated time of arrival must be recorded each ten minute mark of gametime.

- Task 1- At noon (gametime), takeoff from Spirit of St Louis Airport, St Louis, in a Cessna 183. Fly to Quincy Ill and land at 12:36pm (gametime).
- Task 2- At 12:40 (gametime), takeoff from Quincy Airport in a Cessna 183. Fly to the Columbia Regional Airport in Columbia, MO landing at 1:45 (gametime).
- Task 3- At 1:50 (gametime), takeoff from the Columbia Regional Airport in Columbia, MO and fly to the Spirit of St Louis Airport, St Louis landing at 2:50 (gametime).

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