



FunFest 2026

John O'Brien Rubber Band Airplane Competition Rules Middle and High School



Objective: The objective is to design a rubber motor-powered, propeller driven monoplane that will have the longest sustained flight time.

Entries and Judging

Participants: Unlimited participants per school. Teachers interested in registering should contact MCS to verify available slots.

Submission: No prior submission is required. Participants should bring their airplane on the day of FunFest and proceed to the Gym.

SCC Judges: **TBD**

Judging Location: 10:00 am in the Hanger (Gym) inside the Dempsey Student Center

Notes: Tennis shoes are required to participate in Airplanes in the SCC Gym.

Determining the winner: The three planes that fly the longest will be declared winners. The longest time aloft will decide the overall winner.

Competition Rules

RUBBER MOTOR-POWERED MONOPLANE

Participants will construct and test a rubber motor-powered, propeller driven monoplane in advance of the competition. ***Planes must be constructed prior to the date of FunFest. All participants will bring their constructed planes with them on the day of FunFest.***

The three planes that fly the longest will be declared winners. Each participant will be given two attempts. The longest time aloft will decide the overall winner.

All efforts will be made to fly the airplanes in the Sandhills Community College gym.

A rubber band motor-powered, propeller-driven airplane may be constructed from published plans, commercial kit and/or a student's design if the following specifications are satisfied:

1. Total mass of the airplane without the motor will be 10 grams or more.
2. Maximum horizontally projected wingspan of 50 cm, maximum wing cord (straight line distance from leading edge of wing to trailing edge) 12 cm, maximum horizontally projected stabilizer span of 35 cm. Use the 50 cm to 12 cm ratio to determine the maximum stabilizer

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cord. Kits may be purchased and/or modified, or parts created through 3D printing to meet these requirements.

3. Use a single two blade commercially molded (one-piece) plastic propeller with a maximum diameter of 20 cm. Longer props may be trimmed to meet this specification. Trimming/shaving is also permitted to balance and/or reduce the mass of the propeller or to change its pitch.

4. The plane will be powered by a single loop rubber band motor (which may include one knot). Mass will include O-rings and will be massed separately from the plane. Motors may be lubricated before and/or after check in.

5. The plane must be marked in such a way as to be easily identified by the event supervisor. Markings to include:

- The name of the student
- The name of the school

6. If the student is not present to launch the aircraft, an official will launch it with the following considerations:

- Each aircraft will be subjected to the same number of windings by an official.
- The number of windings shall be determined by the officials at the event.
- Time aloft shall be measured from the moment the aircraft is released by the launch official until the aircraft returns to the floor or collides with an object (wall) which causes the aircraft to cease flying under its own power.
- Two attempts will be given.

Material Sources

[6 Sky Streak Balsa Wood Airplane Rubber band Powered Glider GUILLOWS Model kit](#)