



## Catapult Launched Gliders (Middle School Division)

### Construction

- Glider
  - The glider may be constructed using only the following materials: wood, foam, paper, plastic film, carbon fiber, tape, thread, and/or glue.
  - The mass of the glider throughout the flight must be **greater than 3 g**.
  - Wingspan must **not exceed 30.0 cm** at any time.
  - The blunt nose of the fuselage, when inserted into a lip balm cap with inside dimensions of ~1.57 cm deep and ~1.37 cm wide must not touch the end.
  - Each glider must be labeled with the competitor's **first and last name**
- Catapult
  - The catapult, excluding elastic, must be less than 1 m long in any orientation, be supported completely by a participant, and be of a safe configuration.
  - **Elastic must remain on the launch handle.** If elastic leaves the launch handle, timing will end for that flight.

### Competition

- Competitors may bring up to 2 gliders, and any tools.
- Participants must present their glider(s), launch handle(s), and flight log for inspection immediately prior to their 5 official flights.
- Gliders must be launched from a launch handle by a single participant with both feet on the ground.
- Competitors may make up to a total of 5 flights using 1 or 2 gliders.
- After check-in teams will be given a 5-minute Flight Period, starting when their first flight (trim or official) begins.
  - Any flight beginning within the 5-minute period must be permitted to fly, even if the Flight Period ends during the flight.



- Participants may make any adjustments/repairs/trim flights and may switch gliders or launch handles during their 5-minute Flight Period.
- Participants must declare to the Timers before any launches during their Flight Period whether it is an **official flight or trim flight**.
  - If teams do not indicate the flight type before the launch, it will be considered official.
- Flight time for each flight starts when the glider leaves the launch handle and stops when any part of the glider touches the floor, stops moving due to an obstruction (such as a glider landing on a girder or basketball hoop), the elastic leaves the handle, or the judges otherwise determine the flight to be over.
- Participants must not steer their gliders during the flight.
- In the event of a collision with another glider or timing mistake, a team may elect to redo that flight.
  - The 5-minute Flight Period does not apply to such a flight.

### Scoring

- High Score wins. A competitor's Final Score is his/her **longest official flight time**.
- In the event of a tie, the following tiebreakers will be used:
  - 1st Tiebreaker: 2nd longest flight time
  - 2nd Tiebreaker: Shortest flight time

### Awards

- 1st Place - Flight Time
- 2nd Place - Flight Time
- 3rd Place - Flight Time