MESA DAY CONTEST RULES
2020 – 2021
(Version 06.29.20)

Gliders

LEVEL: Grades 6, 7/8, 9/10 and 11/12

TYPE OF CONTEST: Team

COMPOSITION OF TEAM: 2-3 Students per team

NUMBER OF TEAMS: Preliminary – As determined by your MESA Center
There will be no regional event for gliders

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OVERVIEW: Students will design and construct a glider that, when launched, will fly through the air for the longest distance. Students will create their own launcher out of rubber bands or other forms of elastic (more details in the Launcher section below). Gliders will be launched from a standard 6 foot table and the distance from the edge of the table to the glider's first touch point will be the distance travelled.

MATERIALS: The Host Center will provide the following:

- 6 ft standard table
- Clamps to hold elastic launcher

All materials are legal **except**:

- Hazardous materials
- Remote control devices of any kind
- Additional power sources (i.e. thrust, lift, or stored energy that assists in dynamic flight);
- Ready-made kits

Students will provide their own launch band. See **Launcher** section for details.

GENERAL RULES:

Glider:

1. Students' full name, grade level, school name, and MESA Center **must** be clearly labeled on the glider. Failure to properly label the glider will result in a 10% penalty applied to the final score. Gliders checked in with a tie-on label will be required to launch with the label tied on.

2. The glider must have a notch or other item (ex: paper clip, pen cap, etc) attached to the fuselage to hook onto the elastic used to launch the glider.
3. Gliders can be made from various materials and have no restrictions on size or weight as long as no illegal materials listed above are used.
4. The glider must have an easily identifiable fuselage, wing, and tail.
5. The wingspan of the glider can be no more than 20 inches so that it will not hit the C-Clamps when launched (See Image 1)

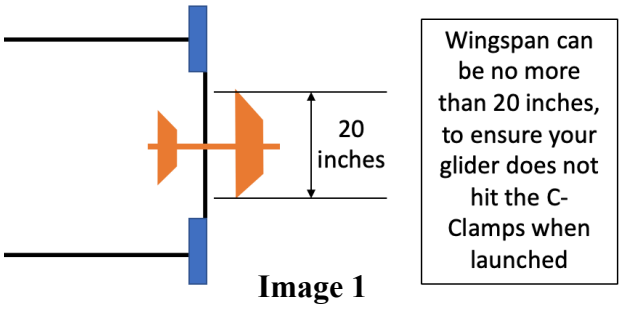

Image 1

6. Only team members can hold and repair their glider. Impound and repair areas will be supervised by competition judges.

Launcher

1. Teams will create their own launcher using elastic and/or rubber bands. They can either use a jumbo rubber band or they can loop several rubber bands together to make one long, elastic launcher.
2. The launcher must be able to loop around the C-Clamps per image 2. It is suggested that the part of the launcher looping to the C-Clamps is strong enough to withstand the force of the launch.
3. The launcher will be inspected during check-in to ensure it would be able to loop around the C-Clamps. If it is unable to, teams will be instructed to fix the launcher before they are called for their first launch. Students may bring their launchers with them to repair before the competition but must leave their glider in impound.
4. If leaving their launcher with their glider in impound, teams must ensure their launcher is labeled so it doesn't get mixed up with anyone else's (ex: attach a piece of paper to the launcher, put the launcher in a Ziploc bag, etc.).
5. If the launcher is unable to loop around the C-Clamps by the time the team is called for their first launch, they must forfeit the launch and repair their launcher before being called for their second launch.
6. Teams are encouraged to bring extra supplies to repair their launcher should it break.
7. Teams will determine how far to pull their launcher back to launch their glider.

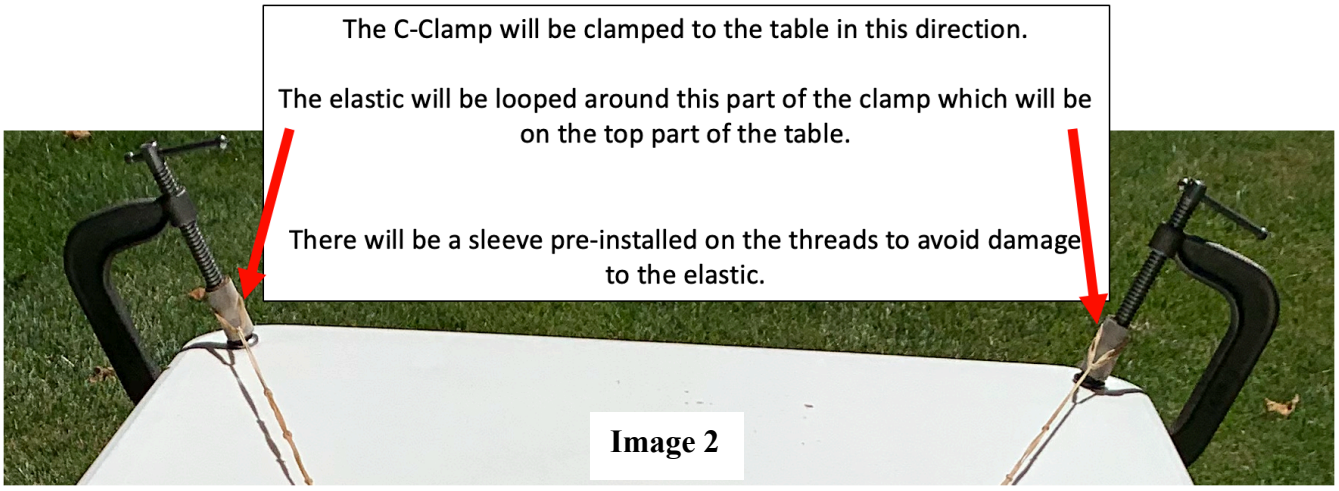

Image 2

JUDGING:

1. The goal for all teams is to launch their glider the furthest distance from the edge of the table that has the C-Clamps (see Image 3 through 5 on the next page).
2. Gliders and launchers will be checked for specifications prior to the start of the competition. Disqualified teams will have an opportunity to compete if they meet ALL of the following conditions:
    a. Accept an automatic mistrial for launch 1.
    b. Make repairs/modifications as necessary to meet the specifications and are ready to compete when called for launch 2.
    c. Make repairs/modifications only in the designated area as indicated by the judges. The only exception is that launchers that fail at check-in can be taken with the students. Gliders must be left in impound.
    d. Failure to adhere to any of the above will result in the disqualification being upheld.
3. Teams that are not disqualified but wish to make repairs and modifications may do so, but they **must** be ready to compete when called for launch 1.

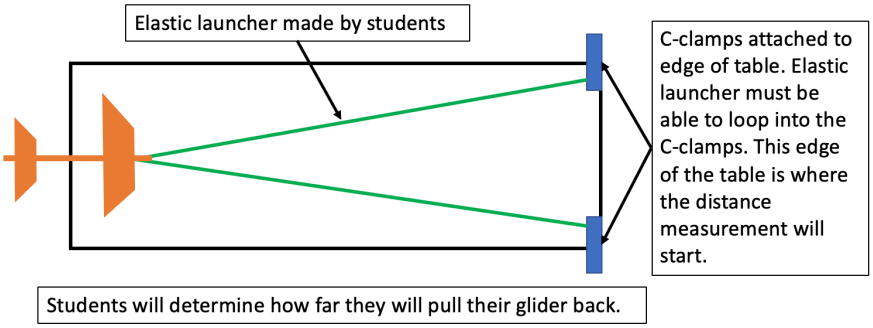

Image 3

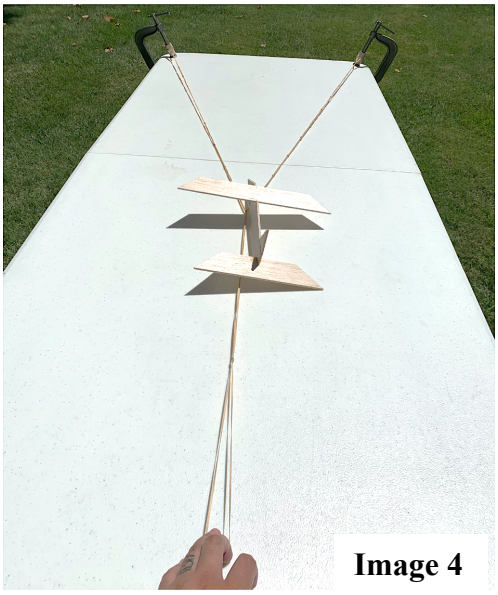

Image 4

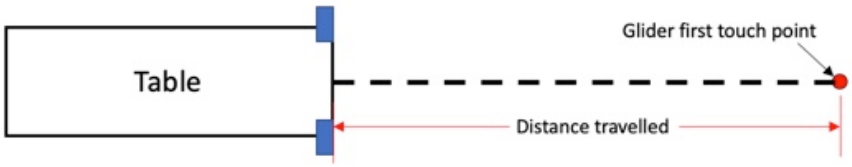

Image 5

4. Teams will be given a number during check-in and this is the order they will be called to compete.
5. Failure to report within 30 seconds of being called will result in a forfeited launch.
6. Each team will have two non-consecutive opportunities for their glider to be launched. Teams will be given a **two** minute window to set up their launcher and glider. Judges will assist with the C-Clamps.
7. After two minutes are up, or the team signals they are ready, the judges will give a 3 second countdown. The team will release after "one" is called.
8. The glider's first touch point (contact with the ground) will be marked by the judges.
9. The distance between the edge of the table and the glider's first touch point will be measured to the nearest 0.5 inches.
10. The judges' decision regarding the location of the glider's first touch point when landing is considered final. Digital media (photos, videos) will **not** be accepted for arbitration purposes.
11. Judges will let the teams know when they may remove their glider from the contest area. Teams must remove their launcher while judges are marking the touch point.
12. Teams must return their glider to the impound area unless they plan to make repairs. Repairs must be done in the designated area under supervision of a judge.

SCORING

1. Launches will be judged based on their distance from the edge of the table.
2. The best score out of the two launches will be used.
3. The **furthest** distance will be the winner.
4. In the case of a tie, the gliders in question will have a "fly-off" and the glider with the furthest distance during this fly-off will be the winner.
5. The fly off will occur one at a time, not simultaneously.

AWARDS:

- Medals will be awarded per grade level: 6th, 7th/8th, 9th/10th (1st, 2nd, 3rd) and 11th/12th (1st, 2nd, 3rd)

ATTACHMENTS:

- Inspection & Scoring Sheet

Gliders
Inspection and Scoring Sheet

Student Names:_____

School: _____

MESA Center:_____ Grade Level: 6th 7th/8th 9th/10th 11th/12th

Section below to be completed by Judges

Specification Checklist

Criteria	**Yes**	**No**
Can the elastic launcher loop around the C-Clamps?		Give back to team to fix
Is the glider clearly labeled with each students' names, grades, and MESA center?		10% penalty
Does the glider contain a feature that hooks onto the elastic for launching?		
Does the glider have easily identifiable fuselage, wing, and tail?		
Is the glider's wingspan 20 inches or under?		DQ
Does the glider use remote controls?	DQ	
Does the glider used stored energy after the initial launch?	DQ	
Overall Specification Check	**PASS**	**FAIL**

Distance from edge of table (the edge holding the c-clamps) to the first touch point of the glider (measure to the nearest 0.5 inch)	**Circle if Mistrial**	**Reason for Mistrial**
Launch 1:	Mistrial	
Launch 2:	Mistrial	

Best Launch Distance: _____

Penalty: -_____

Final Score: _____