



TRAJECTORY C

Team Checklist – 2023

Rank: _____
Tier: _____
Final Score: _____

Team Number: C School & Team Name: _____

Student Names: _____

Check In

 1. T F 7.g. Team operates safely & has a device within spec before the end of the allotted competition period.

Construction Parameters:

- T F 3.a. When ready-to-launch, the launch device, projectiles, stabilizing weights, and all other device components fit in a 60.0 cm per side cube.
- T F 3.b. The launch force is supplied by non-metallic elastic solids such as rubber bands/tubing, wood, plastic, or bungee cords.
- T F 3.c. The triggering device when activated, does not contribute significant energy to the launch. It extends out of the launch area, allow for competitors to remain at least 75 cm away from the launch area. It also does not pose a danger due to flying parts or excessive movement outside of launch area.
- T F 3.d. Team provides unmodified tennis, racquet, and/or Ping-Pong balls to be used as projectiles.
- T F 3.e. The launch device is designed and operated in such a way to not damage or alter the floor.
- T F 3.f. Electrical components are not part of the device or triggering device.

 2. T F **DEVICE MEETS ALL CONSTRUCTION PARAMETERS ABOVE DURING INSPECTION WITH NO CORRECTIONS NEEDED**
(If any construction violations are corrected during the competition block, circle F even if corrected.)

 3. T F **DEVICE MEETS ALL CONSTRUCTION PARAMETERS ABOVE BY THE END OF THE INSPECTION PERIOD**
(If any construction violations are not corrected during the competition block, circle F. teams may still be permitted to compete but will be ranked behind every team.)

Competition:

| | Near Target | | Far Target | | | | | |
|--|-------------------|--------------------|--------------------|--------------------|---|---|---|---|
| | Launch 1 | Launch 2 | Launch 1 | Launch 2 | | | | |
| 5.b. Team places their device at a location they select in the launch area and the competitors are not within 75 cm of the launch area or in front of the front edge of the launch area during a launch. The competitors only touch the part of the triggering device that extends at least 75cm outside of the launch area. | T | F | T | F | T | F | T | F |
| 5.c. No part of the launch device extends outside of the launch area before or after a shot. Any part of the launching device extending beyond the launch area during the launching action returns to and remains in the launch area immediately after the launch without assistance of the competitors. | T | F | T | F | T | F | T | F |
| DEVICE MEETS ALL COMPETITION RULES FOR THIS LAUNCH | <u> 4. T F </u> | <u> 6. T F </u> | <u> 11. T F </u> | <u> 13. T F </u> | | | | |
| 7.b. Straight line distance, in mm, from the center of the initial impact of the projectile to the center of the target. For the near target, if the target surface is not struck, put 5000. | <u> 5. </u> | <u> 7. </u> | <u> 12. </u> | <u> 14. </u> | | | | |
| For Launch 2 only: If Launch 1 at a target lands within 500mm, a bucket shot may be requested in place of the second shot. If this is a bucket shot, circle T and fill out the items below and leave 7.b. blank. Otherwise, leave the items below blank and fill out 7.b. | | <u> 8. T F </u> | | <u> 15. T F </u> | | | | |
| 7.d. The projectile hits the bucket at first impact | | <u> 9. T F </u> | | <u> 16. T F </u> | | | | |
| 7.d. The projectile contacts with the inside bottom surface of the bucket. | | <u> 10. T F </u> | | <u> 17. T F </u> | | | | |

Chart Score

18. 7.c.i. Of one graphs/tables selected by the Event Sup, it includes data spanning ≥ 1 variable range in 4.a.ii. (up to 60 points)
19. 7.c.ii. Of one graphs/tables selected by the Event Sup, it includes at least 10 data points in each data series (up to 55 points)
20. 7.c.iii. Of one graphs/tables selected by the Event Sup, it is properly labeled (e.g. title, team name, units) (up to 40 points)
21. 7.c.iv. Points for each distinct graph/table turned in (30 points for each, up to 120 points total)
22. 7.c.v. Includes a labeled device picture or diagram (up to 45 points)
23. 7.c.vi. Includes at least 2 example calculations (up to 50 points)
24. 7.c.vii. Properly formatted Design Log containing all the required elements is submitted (up to 30 points)

 24. T F General Rule: The team is disqualified. (Notify the team and their coach as soon as possible.)