



# ROLLER COASTER B

Rank: \_\_\_\_\_  
 Tier: \_\_\_\_\_  
 Final Score: \_\_\_\_\_

Team Checklist – 2023

Team Number:   B   School & Team Name: \_\_\_\_\_

Student Names: \_\_\_\_\_

## Check In

1. T      F      2.a. One Roller Coaster (a track that guides a ball/sphere), at least one ball/sphere, tools, spare parts, and appropriate Logs are impounded before the start of the competition.
2. T      F      2.c.,e. Participants wear proper eye protection and have no unresolved safety issues.

## Construction & Competition Parameters:

- T        F      3.a. The Roller Coaster is designed so that the ball/sphere will travel from a Start Line to a Finish Line in as close to the given Target Time as possible.
- T        F      3.b. At all times during the competition, the device, excluding the ball/sphere, fits into 30.0 cm wide x 60.0 cm long x 60.0 cm high sitting flat.
- T        F      3.f. There is exactly one clearly labeled Start Line and one clearly labeled Finish Line running perpendicular to the direction of ball/sphere travel on track designated before the Target Time is released.
- T        F      3.g. The relative positions of the Start Line and the Finish Line are not changed after impound.
- T        F      3.i. Magnets, electrical, and electronic devices are not used for any part of the Roller Coaster.
- T        F      2.f. Participants are able to answer questions regarding the design, construction, & operation of the device.
- T        F      5.b. Once the participants enter the event area to compete, they do not leave the area or receive outside assistance, materials, or communications

3. T      F      **ALL OF THE ABOVE EVENT, CONSTRUCTION, & COMPETITION PARAMETERS ARE MET**

## Run 1                      Run 2

- |              |              |              |              |   |
|--------------|--------------|--------------|--------------|---|
| <u>  T  </u> | <u>  F  </u> | <u>  T  </u> | <u>  F  </u> | 3.d. Ball/sphere is held in the ready-to-run position by an unsharpened #2 pencil in participant's hand. Ball/sphere is released when participant removes pencil from track.      |
| <u>  T  </u> | <u>  F  </u> | <u>  T  </u> | <u>  F  </u> | 5.g. The ball/sphere is placed completely behind the Start Line.  |
| <u>  T  </u> | <u>  F  </u> | <u>  T  </u> | <u>  F  </u> | 2.b. Participants use only one ball/sphere during a given run.  |
| <u>  T  </u> | <u>  F  </u> | <u>  T  </u> | <u>  F  </u> | 3.c. The ball/sphere is visible at all time.  |
| <u>  T  </u> | <u>  F  </u> | <u>  T  </u> | <u>  F  </u> | 3.e. The ball/sphere travels using only its own gravitational potential energy available at the ready-to-run position. No added energy by use of stored potential energy is used. |
| <u>  T  </u> | <u>  F  </u> | <u>  T  </u> | <u>  F  </u> | 5.h. Participants do not touch the device during a scorable run.  |
| <u>  T  </u> | <u>  F  </u> | <u>  T  </u> | <u>  F  </u> | 3.h. Device includes a mechanism to safely stop ball/sphere after it crosses the Finish Line.   |

4. T      F      15. T      F      **ALL OF THE ABOVE EVENT, CONSTRUCTION & COMPETITION PARAMETER AER MET**

5. \_\_\_\_\_    16. \_\_\_\_\_    Gap 1    Horizontal length (in cm) of the gap from the end of the rack the ball/sphere leaves, to the closest part of the track the ball/sphere lands on. Must span at least 5.0 cm
6. \_\_\_\_\_    17. \_\_\_\_\_    Gap 2
7. \_\_\_\_\_    18. \_\_\_\_\_    Height of the Loop (in cm) measured vertically from the Point of Intersection to the highest inner point of the Loop.
8. T      F      19. T      F      Gap 1    The ball/sphere successfully reach the track on the other side of the Gap and fulfill all requirements in 3.j.
9. T      F      20. T      F      Gap 2
10. T      F      21. T      F      The ball/sphere successfully complete the Loop and fulfills all requirements in 3.k.
11. \_\_\_\_\_    22. \_\_\_\_\_    Timer 1
12. \_\_\_\_\_    23. \_\_\_\_\_    Timer 2    Run time, in sec, rounded down to the nearest second. Put 0 if the ball/sphere fails to cross the Finish Line on a scorable run.
13. \_\_\_\_\_    24. \_\_\_\_\_    Timer 3
14. \_\_\_\_\_    25. \_\_\_\_\_    Height (in cm) from the highest part of the Roller Coaster to the floor or the table (if used)
26. \_\_\_\_\_    Target Run Time ( in sec)

## DATA-DESIGN LOG (For Each log, circle either Complete, Incomplete or Not Present)

27. Data Log:    **Complete**    **Incomplete**    **Not present**                      28. Design Log:    **Complete**    **Incomplete**    **Not present**
29. T      F      General Rule: The team is disqualified. (Notify the team and their coach as soon as possible.)