

National Science Olympiad 2013 - Gravity Vehicle C

Supervisors will record this information for each team & each team is encouraged to use this form as a **pre-tournament Checklist!**

Supervisors can also record the numbered items below on the Gravity Vehicle excel spreadsheet found at www.soinc.org

Team Number: C_____ Team Name: _____

Student Names: _____ Final Score: _____

Construction Parameters

General

3.b: All energy used to propel the vehicle comes from the gravitational potential energy derived from the mass of the vehicle and the entire vehicle, including the wheels, starts from an elevated, non-horizontal position on the team's ramp. Y N

3.b: The competitor provided ramp includes a release mechanism to hold the vehicle in place without any contact by the competitors. Y N

3.c: All elastic energy storage devices used for transferring the vehicle's gravitational potential energy are at their lowest energy state, and pre-loaded energy storage devices do not provide energy to propel the vehicle. Y N

3.d: Vehicle's total mass, including any alignment devices left on the vehicle, does not exceed 1.500 kg Y N

3.f: The vehicle and the ramp, including the release mechanism, together, in the ready to start position, fits within a rectangular box 50.0 cm wide x 75.0 cm deep x 200.0 cm high. Y N

3.i: Stopping mechanisms work automatically and the vehicle is not tethered or remotely controlled. Y N

3.j: Electrical components are not used on the vehicle, the ramp or any alignment devices. Y N

Individual Runs

	Run 1		Run 2	
3.e: The vehicle has the point of a single bent paper clip on either the leftmost or the right most edge/face of the vehicle between the front and rear axles of the vehicle and extending down to within 1.0 cm of the track's surface when the vehicle is on the track. The point of the paper clip is easily accessible to the Event Supervisor.	Y	N	Y	N

3.g: Competitors release the vehicle by using any part of an unsharpened #2 pencil to actuate the release mechanism on the ramp without using the pencil to touch any part of the vehicle to start the run. Competitors also do not touch the vehicle, the release mechanism, or the ramp to start the run (except to prevent the ramp from moving during launch).	Y	N	Y	N
--	---	---	---	---

3.i: No part of the vehicle except for the wheels contact the floor.	Y	N	Y	N
--	---	---	---	---

3.i: No part of the vehicle falls off during the run.	Y	N	Y	N
---	---	---	---	---

IS THIS RUN FREE OF ANY CONSTRUCTION VIOLATIONS

1. Y N 10. Y N

The Competition

5.a: The vehicle and ramp are impounded before the start of the competition.	Y	N		
--	---	---	--	--

5.d: The vehicle is not rolled on the track surface (floor) anywhere at any time prior to or during the competition except for the two official runs.	Y	N	Y	N
---	---	---	---	---

5.e: All parts of the vehicle move as a whole.	Y	N	Y	N
--	---	---	---	---

5.e: The competitors do not hold, constrain, or give a push to the vehicle and the vehicle is able to remain at the starting position without being touched until triggered.	Y	N	Y	N
--	---	---	---	---

5.h: Competitors place their vehicle and ramp completely behind the Start Line.	Y	N	Y	N
---	---	---	---	---

5.i: Sighting and/or aligning devices on the track are removed before the vehicle runs.	Y	N	Y	N
---	---	---	---	---

5.l: Once the vehicle starts a run, the competitors move outside the lane, not follow their vehicle, and wait until called by the Event Supervisor to retrieve their vehicle.	Y	N	Y	N
---	---	---	---	---

IS THIS RUN FREE OF ANY COMPETITION VIOLATIONS

2. Y N 11. Y N

Run Parameters

5.f: Competitor predicted travel time in seconds to the closest 0.01 second (only 1 prediction for both runs) 3. _____

5.m: Height of the vehicle's highest point in the ready to launch position in cm (to the nearest whole cm)	4. _____	12. _____
--	----------	-----------

6.c: Measured time in seconds (to the nearest 0.01 second)	Timer 1	5. _____	13. _____
	Timer 2	6. _____	14. _____
	Timer 3	7. _____	15. _____

6.b: Distance (point to point) from the Measurement Point to the Target Point in mm	8. _____	16. _____
---	----------	-----------

5.p: Failed Run (the time and/or distance cannot be measured for the run)	9. Y	N	17. Y	N
---	------	---	-------	---

DID THIS TEAM HAVE AT LEAST ONE NON-FAILED RUN?

Y N

Other

General Rule 9: Disqualified (notify the team and their coach as soon as possible)	18. Y	N
--	-------	---