

Judges Form for Roller Coaster Competition

Team: _____ School: _____.

Judges: _____

Technical 70 points	The technical score judges the accuracy and reliability of your roller coaster.		
Travel Time Score Doubled if 1 min. +/- 5 sec.	Up to 35 points will be awarded for any roller coaster when the ball spends a minimum of 30 seconds traveling the path. The technical score will be doubled (up to 70 points) if the travel time is between 55 and 65 seconds.		
Start/End	The ball begins and ends at the designated areas 5 points		Ball does not begin or end at the designated areas 0 points
Rube Goldberg Challenge	Achieved 5 points	Bonus none	Not Achieved 0 points
Uniqueness of tricks	No trick is repeated during the run 5 points	Only one trick is repeated 3 points	Multiple tricks repeated 0-2 points
Tricks 20 pts	Each trick will be worth 2 points, up to a maximum of 20 points. In case of a tie, the team with the maximum number of tricks wins. Examples are listed below, but don't limit yourself to these suggestions.		
Examples	Finish High	The ball finishes higher than it started.	
	Chain Reaction	A chain reaction takes place during the run.	
	Airborne	The ball becomes (purposely) airborne during a trick.	
	Loop	The ball transverses an upside-down loop without falling off.	
	Spring or rubber band	A spring or rubber band is used to perform a trick.	
	Corkscrew	The ball undergoes a corkscrew motion (horizontal loop).	
	Simple machine	A simple machine is used, such as a pulley, lever or wheel and axles system.	
	Magnet	A magnet is used to cause a reaction/trick.	
	Lift	A lift is implemented at some point during the run.	
	Other	Other unique tricks not mentioned here.	
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	Other		
	Other		
	Other		

Note: The maximum Technical Score is 70 points.

General Technical Score Deduction Checklist: Does the roller coaster...

fit into a volume of 4' by 2.5' by 4' ? ___ use a specified ending and beginning point? ___ stand up by itself? ___ not use prefabricated toys except for decoration? ___ not use electrical, chemical or nuclear energy? ___ not use water? ___

(if these requirements are met, the roller coaster is eligible for a technical award and 2 points for each wrongdoing is not deducted from the overall technical score.)

Presentation (30 points)

Is the presentation board: **(10 points)**

- Neat/easy to read? ____/8 pts

- Contain a minimum number of errors?
 - 1 pt – the board contains 2-5 easily found errors
 - 2 pts – the board only contains 0-1 easily found errors

Does the presentation accurately identify and describe: **(10 points)**

- The tricks of the coaster? ____/5 pts

- Physics concepts that the trick relates to?
 - 1 pt – if an attempt is made
 - 3 pts – if most the concepts are identified correctly
 - 5 pts – if all the concepts are identified correctly

Does the team: **(10 points)**

- talk confidently about their experience and use good eye contact and posture? ____/2 pts
- seem knowledgeable about what they learned? ____/2 pts
- act enthusiastic about the project? ____/2 pts
- have all members participate? ____/4 pts

Theme (30 points)

Does the coaster have a theme?____/6 pts

Is the theme carried throughout and well integrated into the coaster, poster, and the presentation?____/8 pts

Is the theme creative?____/8 pts

How well crafted is it (aka: is it appealing to the eye, is the construction of the theme and the coaster well done)?____8 pts