

Judges Form for Roller Coaster Competition

Technical 60 pts	The technical score judges the accuracy and reliability of your roller coaster.		
Time	Up to 30 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 60 points) if the travel time is between 55 and 65 seconds.		
Start/End	The ball begins and ends at the designated areas 0 points deducted from technical score	Ball does not begin or end at the designated areas 10 points deducted from technical score	
Rube Goldberg Challenge	Achieved 5 points	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 track the ball is on undergoes a corkscrew (horizontal loop where the ball goes upside-down).	
	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.	

- **Up to 10 bonus points can be awarded (on top of a possible total of 60 points) at the judge's discretion (based upon reliability, creativity, style, difficulty of tricks, etc).**

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

Presentation (20pts.)

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

- Neat/easy to read?
Rated (1pt-8pts)

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

Does the presentation accurately identify and describe: **(5pts)**

- The tricks of the coaster?
2pts (if this is done)

- Physics concepts that the trick relates to?
1pt – if an attempt is made
2pts – if most the concepts are identified correctly
3pts – if all the concepts are identified correctly

Does the team: **(5pts)**

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

Theme (20pts)

Does the coaster have a theme?___/5pts

Is the theme carried throughout and well integrated into the coaster, poster, and the presentation?___/5pts

How creative is the theme?___/5pts

How well crafted is it (aka: is it appealing to the eye, is the construction of the theme and the coaster well done)?___5pts