Judges Form for 2020 Roller Coaster Competition

Team: _____ School: _____ **.**

Judges: _____

Technical (Maximum - 70 points)

Technical Score Maximum (70 points)	The technical score judges the accuracy and reliability of the roller coaster. Teams have three opportunities to achieve a successful run of going from the start to the finish and completing the Rube Goldberg Challenge in 30 seconds +/- 3 seconds.		
Travel Time Score Doubled if 30 sec. +/- 3 sec.	Up to 35 points will be awarded for a roller coaster when the ball spends a minimum of 20 seconds traveling the path. The technical score will be doubled (up to 70 points) if the travel time is between 27 and 33 seconds.		
Start/End	The ball begins and ends at the designated locations: 5 points		Not achieved: 0 points
Rube Goldberg Challenge	Rube Goldberg Challenge Achieved: 10 points		Not achieved: 0 points
Tricks	Each unique trick completed is awarded 2 points up to a maximum of 20 points. Tricks may be repeated, but no additional points are awarded for the repeated tricks.		
Trick examples	Means of propulsion	Gravity, spring, rubber band, mousetrap, etc. Each type is counted as a separate trick	Points awarded:
	Simple machine	Pulley, lever, wheel and axle. Each type is counted as a separate trick	Points awarded:
	Magnet	Magnet causes a reaction or transports the ball	Points awarded:
	Lift	A lift is implemented during the run	Points awarded:
	Corkscrew	The ball undergoes a corkscrew motion (horizontal loop)	Points awarded:
	Chain Reaction	A chain reaction takes place during the run	Points awarded:
	Airborne	The ball becomes purposely airborne during the run	Points awarded:
	Loop	The ball transverses an upside-down loop without falling off	Points awarded:
	Finish high	The ball finishes higher than it starts	Points awarded:
	Other	Other unique tricks not mentioned above	Points awarded:
	Other		Points awarded:
	Other		Points awarded:
	Other		Points awarded:
	Other		Points awarded:
Time Multiplier: (0,1,2)	Start/End Points:	Rube Goldberg Points	Trick points:	Total Points:

General Technical Score Checklist: Does the roller coaster:
fit into a volume of 3' by 3' by 2' ?___   use a specified beginning and ending 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)

Presentation (Maximum - 30 points)

Is the presentation board neat and easy to read?___/**0-8 points**

Is the information on the presentation board free of errors?___/**0-2 points**

Does the oral presentation accurately identify and describe the tricks of the roller coaster?___/**0-5 points**

Are the Physics concepts the tricks are related to correctly identified?___/**0-5 points**

Do all members of the team participate in the presentation?___/**0-4 points**

Do the team members talk confidently about their experience and use good eye contact and posture?___/**0- 2 points**

Are the team members knowledgeable about what they learned?___/**0-2 pts**

Do team members act enthusiastic about the project?___/**0-2 points**

Theme (Maximum - 30 points)

Does the coaster have a theme?___/**0-6 points**

Is the theme carried throughout and well integrated into the coaster, poster, and the presentation?___/**0-8 points**

Is the theme creative?___/**0-8 points**

How well crafted is the roller coaster: (is it appealing to the eye, is the construction of the theme and the coaster well done)?___/**0-8 points**