

Thrill Ride Project

Due March 3
Oral Presentations on April 1-2

Your company has been asked to submit a proposal for an exciting new thrill ride. The theme park you are submitting your ride design to is looking for rides that demonstrate some of the basic laws of physics. Special attention will be paid to Newton's laws of motion, kinetic and potential energy, and friction. Only projects that include a model of the ride, a written description of the laws of physics covered, a newspaper advertisement directed toward the ride's targeted audience, a ride sign, and an oral presentation on the ride will be considered. A rubric for each of these project parts is included in this packet.

You will have time in class to prepare this project, but you are encouraged to use time at home as well to complete the project's tasks.

Project Overview:


/100 points:	Model of Thrill Ride
/50 points:	Written description of Newton's laws, kinetic/potential energy, and friction as evidenced in your model ride
/50 points:	Oral report to class on your model
/25 points:	Newspaper advertisement for your ride
/25 points:	Sign to be placed at entrance of your ride
/50 points:	Participation
<hr/>	
/300 points:	Total

Thrill Ride: Rubric for Oral Presentation

Task

Your task is to present the scale model of the thrill ride you have produced to the board of directors at Deifel Land. You must include a description of how your ride is designed to demonstrate some of the basic laws of physics. Special attention will be paid to Newton's laws of motion, kinetic and potential energy, and friction. You should also attempt to 'sell' your concept to the Deifel Land board of directors using your best persuasive speaking. Feel free to include details about cost of production, uniqueness of your ride's 'experience', and defend why your ride is going to be a big hit.

Criteria and Rubric

	5	3	0	Weight	Mark
 <p>Physics Concepts</p>	Your presentation showed that you have a clear and accurate idea of the physics involved with a thrill ride. You explained all six concepts well and included how they are evident in your ride.	Your presentation showed that you have a mostly clear and accurate idea of the physics involved with a thrill ride. You explained at least four of the six concepts well and included how they are evident in your ride.	Your presentation showed that you have little idea of the physics involved with a thrill ride. You explained few of the six concepts accurately and did not sufficiently include how they are evident in your ride.	X 3	/15
Organization	Well-organized speech with a clear opening argument, middle, and closing statement. It is obvious you planned it in advance.	Your speech seemed a bit out of order, but this did not affect the overall quality of what you were saying. You need to spend more time practicing.	Speech was not organized or was very jumbled. You clearly needed to do more preparation	X 2	/10
Persuasiveness	Very persuasive. I was convinced to buy your ride concept for my park.	Somewhat persuasive. You may have added more details to make me want to purchase your ride	I was not convinced to buy your ride for my park.	X 2	/10
Creativity	Excellent! Creative speech. Design and concept are both very creative.	Mediocre. Could have been spiced up a bit with creative ideas.	Boring. You need to work on capturing the audience's attention.	X 2	/10
Clarity	The speech was clear and effective. It was obviously not rushed.	Speech is somewhat clear and effective. Though it may have needed polishing, it was not rushed.	The speech was not clear. It appeared rushed.	X 1	/5

Comments:


Total Score: /50

Thrill Ride: Rubric for Model

Task

Your task is to create a scale model for a thrill ride your company intends to produce. The theme park you are submitting your ride design to is looking for rides that demonstrate some of the basic laws of physics. Special attention will be paid to Newton's laws of motion, kinetic and potential energy, and friction. You should attempt to build a fully functioning model of the entire ride. If this is not possible, a section of the ride may be built accompanied by drawings of the remainder of the ride. Your model must include index cards that explain where each of Newton's laws is exhibited in the ride. You must also include cards that show explain potential energy, kinetic energy, and friction in the ride. You may also include calculations of the theoretical kinetic energy, theoretical top speed, and of theoretical work needed to start a ride for extra credit.

Criteria and Rubric

	5	3	0	Weight	Mark
 Model	The model is complete and fully functional or any parts that are not complete or functional do not detract from a presentation of the ride's physics.	The model is partially complete. Parts of the model do not detract from a presentation of the ride's physics.	Model is incomplete.	X 7	/35
Index Cards	The scale model has a minimum of five index cards that describe Newton's three laws of motion, kinetic and potential energy, and friction. All index cards are accurate.	The scale model has a minimum of five index cards that describe Newton's three laws of motion, kinetic and potential energy, and friction. 3/5 index cards are accurate.	The model lacks index cards describing its physics or the index cards are inaccurate.	X 5	/25
Scale	The model is built to scale and this scale is accurately reflected in the model.	Some portions of the model are not built to scale, but the model generally fits the given scale.	The model pays no attention to scale.	X 2	/10
Creativity	Excellent! Creative use of materials. Design and concept are both very creative.	Use of materials, design, and concept for model are somewhat creative.	Use of materials, design, and concept for model are unoriginal and lack creativity.	X 3	/15
Neatness	Model is very neat. Construction is precise and not sloppy. It is apparent that the project was not rushed.	Model is somewhat neat. Construction may have a few errors that you probably should have caught. Construction was not rushed.	The model is not neat. Construction is sloppy. It is apparent the construction was rushed.	X 3	/15

Comments:

Total Score: /100