

Roller Coaster Design Team Tasks

I. Requirements of the Project

You will work in a team to complete the following components of the project. Each of you will choose a specific job. It is your responsibility to complete the task for that job, making sure it supports the other job roles. Each team member contributes to the final presentation given to a committee from the Canyon Coaster Amusement Park. The presentation must include the following:

- A blueprint and maquette (to scale) of your group's roller coaster design
- An artistic rendition of the ride
- Research presented in the form of a magazine that will market your ride to the general public
- A technical report highlighting specific features of the ride
- Persuasive techniques that “sell” your design to the committee

II. Individual Job Responsibilities

You will be assigned a grade based on work at your chosen job. Although this is a group project, you will receive a grade for your work only. You may also earn bonus points based on how well your piece fits together with the other members of the group and how well you work together in your group.

<p>Architect's Responsibilities <i>Evidence of descriptive writing</i></p> <p>Journal entries -sketches or pictures, and a daily log</p> <p>Scaled continuous side and top view -correct labels for speed, distance, time, and forces</p> <p>Realistic rendition of roller coaster including: -outside environment -theme -topography and location of ride -design of track and car</p> <p>Slope of first drop and angle of decent</p>	<p>Researcher's Responsibilities <i>Evidence of research and writing skills</i></p> <p>Journal entries -sketches, pictures, and a daily log</p> <p>Internet research documentation</p> <p>Use of Publisher program to create magazine cover -thesis statement portrayed on cover -three articles to support a thesis</p> <p>Use of a data base</p>
<p>Public Relations Director's Responsibilities <i>Evidence of persuasive writing skills</i></p> <p>Journal entries -sketches, pictures, and a daily log</p> <p>Presentation for the group -multimedia presentation</p> <p>Presentation should include: -safety measures -unique features -highlight materials used -highlight coaster specs -car design -some information from each of the other jobs</p>	<p>Engineer's Responsibilities <i>Evidence of technical writing skills</i></p> <p>Journal entries -sketches, pictures, and a daily log</p> <p>Maquette model to scale</p> <p>Technical report to include: -car and track design description -research on design elements -research on materials -mathematical configurations -safety measures-forces</p> <p>Correspondence with an expert through: interview, fax, email, or online (optional)</p>

III. Jobs at a Glance During Splits

Use this as a guide to keep you on track during each block.

Language arts only Form groups, assign roles, decide on basic design.				
Splits	Engineer Science	Architect Math	Researcher Social Studies	Public Relations Language Arts
You are required to write journal entries in your red book each block.				
1st Block	Set scale for maquette, segment track	Calculate for distance, speed, and time	Decide on cover design for magazine and topic of 3 articles	Choose design format for PowerPoint
2nd Block	Calculate for force, momentum, kinetic/potential energy, and acceleration	Draw continuous side view to scale	Use database to research information for articles	Select backgrounds and titles of slides
3rd Block	Continue with calculations	Draw top view to scale	Continue research—start writing articles	Select pictures for slides
4th Block	Research technical information for report. Decide on car design so architect can draw.	Draw artistic rendition	Finish writing articles to go in magazine	Insert persuasive writing to sell roller coaster
5th Block	Complete technical report. <i>Extension</i> — e-mail a roller coaster company with design-get feedback.	Draw car design	Final editing on articles and cover design.	Start gathering information from other jobs to put in details on slides (e.g. calculations, research, etc.)
Language arts only Design groups reconvene and pool all information and finish PowerPoint and presentation. Present proposals in front of a committee representing the amusement park.				
Team assembly —Top five to ten presentations are given in front of entire team.				