

ROLLER COASTER OF PHYSICS PROJECT

PURPOSE: To apply what you have learned in your study of physics. This project should allow you to bring together the knowledge you have acquired while studying physics and transfer it to a real life application (designing, building and explaining to the class the physics involved in a roller coaster). You may have a maximum of **FOUR people** in your group. Your presentation should be **4-8 minutes** long and include **at least 10** concepts or vocabulary words (**EXPLAINED, not just mentioned**) from the **Roller Coaster Vocabulary Sheet**.

See Grade Sheet for more info on requirements and how the project is graded

OPTION #1 **Roller Coaster 3-D Model** - Construct a working 3-dimensional model of a roller coaster using any of the following materials: plastic tubing, wood, tooth picks, cardboard, paper, plastic, models, toys or any other non-toxic, non-harmful materials. The model and your 10 concepts must be presented to the class. Your model needs to be a working; safe model that is also creative and is fun to ride. **Extra credit (up to 10 points)** can be earned for homemade models (not kits or toy tracks).

***NOTE:** *Your model can not be wider than 33 inches or taller than 72 inches.*

OPTION #2 **Roller Coaster Poster** - A multicolored poster at least 1 meter square, with drawings and description of a creative, exciting (realistic) roller coaster you have designed. You will decide how it looks, the name and "theme." Poster must include text captions and arrows showing where you explained the 10 concepts. (**Max of 2 people** in a group for this option).

OPTION #3 **Video** - Create a video that showcases your group explaining a real roller coaster on location (such as an amusement park). Same requirements as the other projects (see #s 1 or 2 for more information).

OPTION #4 **Interactive Web Site** – You can include or use in you web project: pictures, animated graphics, video, text, links or other multimedia or interactive content. The site should allow the user to explore the physics involved in roller coasters. It should be used to assist and support you in your presentation in front of the class and not be a showcase of pictures and definitions.

OPTION #5 Any other project you can come up with that meets the purpose of the project. **I MUST APPROVE THIS** in order for it to qualify.

OPTION #6 **Do Nothing** - (but will result in a very low grade)