

Six Flags over Texas

2201 Road to Six Flags St E

Arlington, TX 76011

Dear Students,

We are planning to build a new roller coaster at our park and would love to have the ride designed by high school students. To find out how you can enter this exciting contest, read the rules and suggestions that follow.

We are encouraging schools to build and enter roller coaster models built by teams of students. The roller coaster to be designed is a "gravity ride.” The roller coaster is released and the force of gravity keeps the ride going all the way to the end of the ride. As the coaster goes through its twists, turns, rolls, and loops, it gains and loses its initial potential energy (supplied by dragging it up the first hill). Energy changes from potential into kinetic energy and back into potential energy. Since some of this initial energy is lost due to friction, the roller coaster can never rise as high as the first hill. This is the type of ride you are challenged with building.

In order to build a great roller coaster we encourage you to spend a lot of money to complete the project. There is no limit in funds!

Your roller coaster will be judged based on three categories:

1. Technical Merit
2. Theme and Creativity
3. Most fun to ride

See the scoring rubric on the back of this page to find out how you can get the maximum points possible for your roller coaster.

**Coaster Model Rules**

1. The ride must be a continuous function
2. The ride must have a starting point and an ending position, the ride is not designed to be a loop
3. The roller coaster must accommodate at most 12 people per ride.

**Scoring Rubric**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Vertical Loops  | 1=5 points | 2=10 points | 3=15 points | 4 = 20 points  |
| Engineering  | Nothing unusual= 0 points | Some novel materials= 3 points | Several novel parts= 6 points | Great deal of novel design = 10 points  |
| Definite Theme | No theme = 0 points | Theme but little follow through = 3 points | Theme throughout ride = 6 points | Theme well done throughout = 10 points  |
| Would attract visitors | Wouldn’t attract visitors = 0 |  |  | Strong attraction = 10 points |
| Can it be constructed? | Very difficult to build = 0 |  |  | Reasonable to build = 5 points |
| “Realistic” Ride | Unrealistic for people = 0 | Would be harsh for people = 1 point | Generally reasonable = 3 points | People would ride safely = 5 points |
| High g-forces  | Blasé ride = 0  | Very minor g-forces = 1 point | 1 good area = 3 points  | >1 area = 5 points |
| Unexpected thrills  | None = 0 | Very minor thrills = 1 point | 1 good one = 3 points | >1 good one = 5 points |
| Would you want to ride it? | Definitely not = 0 | Leaning towards not = 3 points | Leaning towards yes = 6 points  | Definitely yes = 10 points |