

# **INTRODUCING... THE RATTLER! SIX FLAGS' NEWEST ATTRACTION!**

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# THE CONCEPT

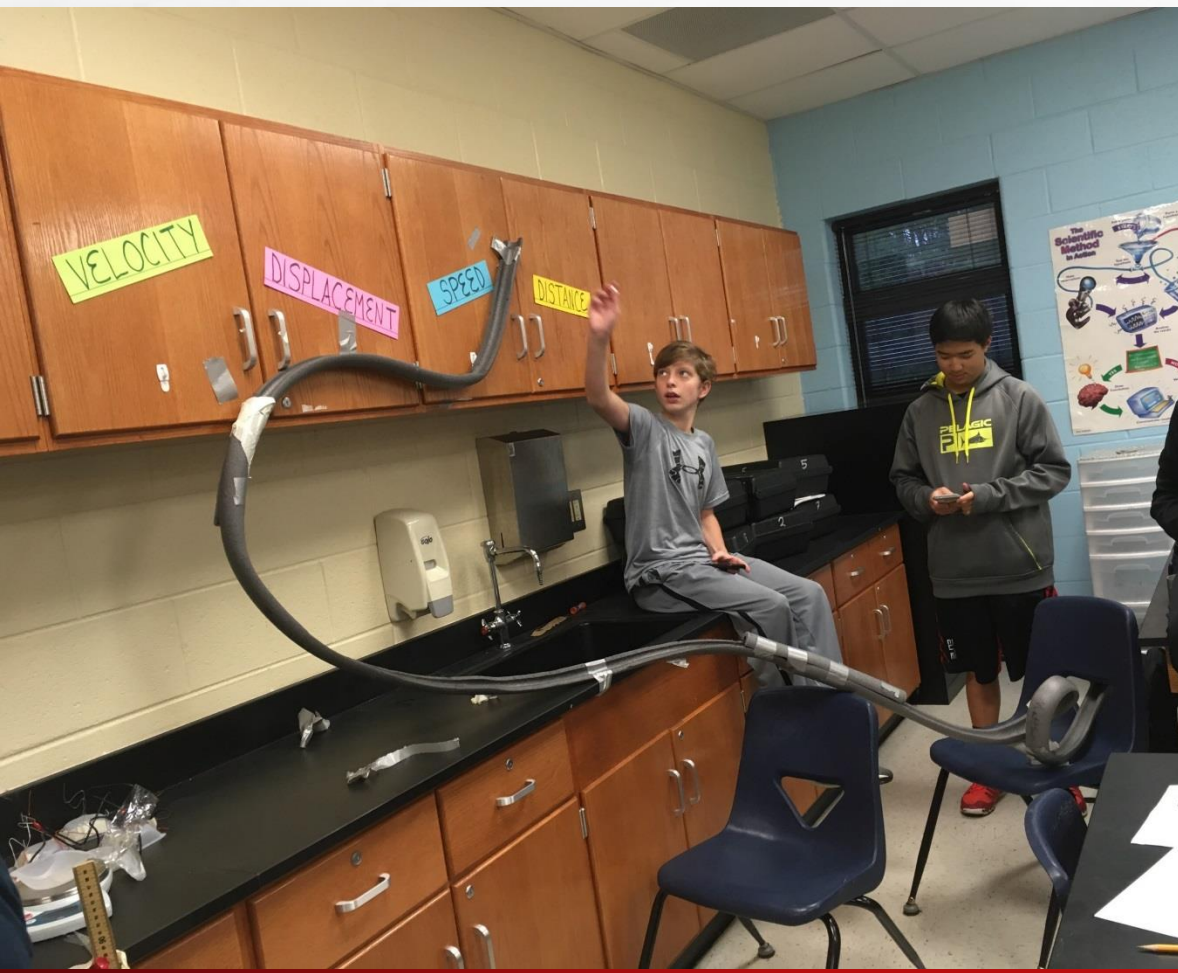
- **The Rattler is an all new, all different design for a roller coaster that is meant to set a new standard for future coasters.**
- **This coaster involves a constant slope downhill that takes the shape of a rattlesnake.**
- **It gives riders an exhilarating, exciting, and unforgettable experience.**

# THE DESIGN

- **The Rattler's design incorporates a relatively simplistic design that includes a bend, a hill, and a loop.**
- **The Gyroball car undertakes many different and unusual directions to achieve the maximum amount of enjoyment that is integral to the success of any roller coaster**
- **With this groundbreaking design, the Rattler will no doubt be in its own class at the Six Flags park**



# PICTURES!





# TEST 1459 FAILS...





# TEST 1473 WORKS!



# THE FACTS

- **The average speed of the Gyroball (marble) is 1.77 m/s**  
**Trial 1: 2.70 seconds**  
**Trial 2: 2.89 seconds**  
**Trial 3: 2.84 seconds**
- **The total distance the ball travels and the length of the track is 4.99 m.**
- **The mass of the Gyroball (represented in our simulation by a marble) is 5.9 g**

# THE THRILLS

- **The most exciting part of the ride in our opinion is the “freefall” drop.**
- **To maintain safety, the drop is not completely freefall, but this location is where you can feel almost weightless as you plunge through the ride in order to make it to the “tail end” of the rattler.**
- **This drop is what we consider to be The Rattler’s most unique trait.**

# THE SAFETY

- **As an added bonus to The Rattler’s already significant awesomeness, our car doesn’t fall off during the ride! (Yay!)**
- **This safety factor puts The Rattler on par with Six Flags’ safety standards.**
- **The height requirement for riding The Rattler is 4 feet 6 inches.**



# THE SCIENCE

- **Due to our original design, the Gyroball always increases speed, decreases speed, or changes direction.**
- **Because of this, every point on the ride can be considered a location of acceleration**
- **However, the points of most acceleration and deceleration are the turn, the hill, and the loop.**
- **These points add excitement for the riders by providing constant suspense and thrill.**
- **The energy transformations that occur on our ride consist mostly of changes from gravitational potential energy to kinetic energy and vice versa.**
- **However, some of the gravitational potential energy is always transformed into thermal energy.**
- **At the end of the ride, all of the energy reaches the same level as it was at the beginning of the ride.**
- **This phenomenon is proved by the law of conservation of energy, which states that energy can not be created or destroyed, only transformed.**

**THANK YOU FOR YOUR TIME! WE  
SINCERELY HOPE THAT THE ENTIRE SIX  
FLAGS BOARD OF DIRECTORS  
CONSIDERS TO INCORPORATE THE  
RATTLER INTO ANY OR ALL OF THEIR  
PARKS!**