

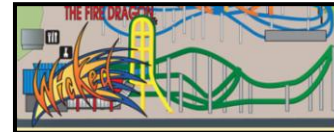
WICKED

Wicked uses strong electromagnets to quickly accelerate riders up the steep, 110-foot tower at speeds close to 41 miles per hour. Throughout the ride, Wicked travels through steep valleys, high-banked turns, a half pipe, roll inversion, and other exciting features. Using the iPhone or iPod “Mobile Science – Acceleration 1.0” application or Android “Grav-O-Meter” application, fill out the following information as you enjoy the ride.



Questions

1. How would you estimate the length of the ride?
2. Before riding Wicked, look at the drawing below and identify where a rider feels the maximum amount of acceleration. Why?



3. Using the “Mobile Science - Acceleration 1.0” iPhone or iPod application, turn the collection rate to 60 samples/second, hit the green “start” icon. Start collecting the data before you get on the ride, safely secure the device, and collect data during the ride. Hit the red “stop” icon to stop recording data once the ride is complete. Using the application data, identify the maximum acceleration felt in each axis. (**Note:** *The data from “Mobile Science - Acceleration 1.0” cannot be saved unless e-mailed. In order to save the data, take a screenshot of the iPhone or iPod device. To do so, hold the “home” and “power” button down at the same time. The screenshot will be saved in the “Photos” folder on the device.*)

Using the Android “Grav-O-Meter” application, start the application and allow it to run during the duration of the ride. Once the ride is over, hit the “menu” button and you can see the maximum acceleration felt.

x-axis:

y-axis:

z-axis:

4. Using the data from question three, identify on the map in question two where the maximum acceleration was felt. Does it match up to your initial thoughts? Why or why not?