The Demon!

Read before Riding!

Quantitative Observations:

DATA

Length of track = 2,300ft or 700m
Height of first hill = 100ft or 30.3m
Height of 1st loop = 78ft or 23.6m
Height of 2nd loop= 55ft or 16.7m

While Standing in line...

Time of ride = _____seconds.

Length of train = _____ft or _____m
(estimate length of one car X # of cars)

While riding ... (using accelerometer)

Maximum acceleration = ___g's at_____.
(location)
Acceleration at top of loop #1 =____g's
Acceleration at top of loop #2 =____g's

From Observation Area...

Time for entire train to pass a point at the bottom of first hill = _____seconds.

Time for entire train to pass a point at the top of the 1st loop = _____seconds.

Time for entire train to pass a point at the top of 2nd loop = _____seconds.

Qualitative Observations:

1. Did you sit in the front, back or middle of the train?

2. Did you feel more force going into or out of the loops? Explain.

3. **Compare** how the force felt while in loop 1 and the in loop 2.

4. **Explain** why you think your accelerometer **did** or **did not** measure accurately.

5. The coaster travels **slowest** when it is

   a. highest, b. lowest.

6. When you **enter the loop** you feel

   a. heavier, b. lighter than you usually do.

7. When you reach the **top of the loop** you feel …..

   a. heavier, b. lighter than you usually do.

8. You felt **heaviest**
   a. when you entered the loop
   b. b. at the top of the loop
   c. c. at the end of the loop

9. While you circle through the **loop,** you seat seems to be forcing you
   a. away from, b. toward the center of the loop.

10. While you go through the **corkscrew,** which way does your seat seem to be forcing you?

11. **Explain why** the **loops** have different heights?