Many of the questions asked on the other looping roller coasters (Demon®, Shock Wave®, Iron Wolf®, and Batman the Ride®) may be applied to this ride. The questions below are for specific use on this ride, and tend to be of a more advanced nature.

1. A. Measure the initial height of the train just before release in the forward direction.
   B. Measure the final height (forward vertical tower) of the train at the end of the forward run. This is at the moment of "catch" *before* it is lifted to the top of the tower for its second drop.
   C. Determine the amount of gravitational potential energy transferred to thermal energy due to friction from the initial drop to the point of "catch".

2. Repeat the measurements in Question 1 A and B, but this time for the height of the train at the second release (backwards) back to the initial lift tower. Compare this energy transfer with that in Question 1 C. Is this really déjà vu? Are the differences in energy transfer significant? Please support your answer.

3. Draw force diagrams for a passenger at the following points on the ride:
   A. At the top of the lift tower at the moment of release.
   B. Going through the loading platform area.
   C. At the top and middle of the forward circular turn.
   D. At the bottom of the vertical loop going forward.
   E. At the top of the vertical loop going forward.
   F. After being "caught" on the forward vertical tower.

4. Calculate the net force for a passenger at points A, B, and F of the ride listed in Question 3.

5. Calculate the support (normal) force for a passenger at points A, B, and F listed in Question 3.

6. Measure the radius of curvature at points C, D, and E in Question 3. There are several methods by which this may be done. One is triangulation. Another that you may wish to consider is measuring how much of an arc angle is created across the length of the train, and applying that information to estimate the circumference of the section of track being measured. From that, the radius may be calculated. You may assume the top and bottom of the vertical loop approximate circles of different radii. The entire vertical loop is a clothoid shape.

7. Calculate the net force for a passenger at points C, D, and E of the ride listed in Question 3.

8. Calculate the support (Normal) force for a passenger at points C, D, and E listed in Question 3.