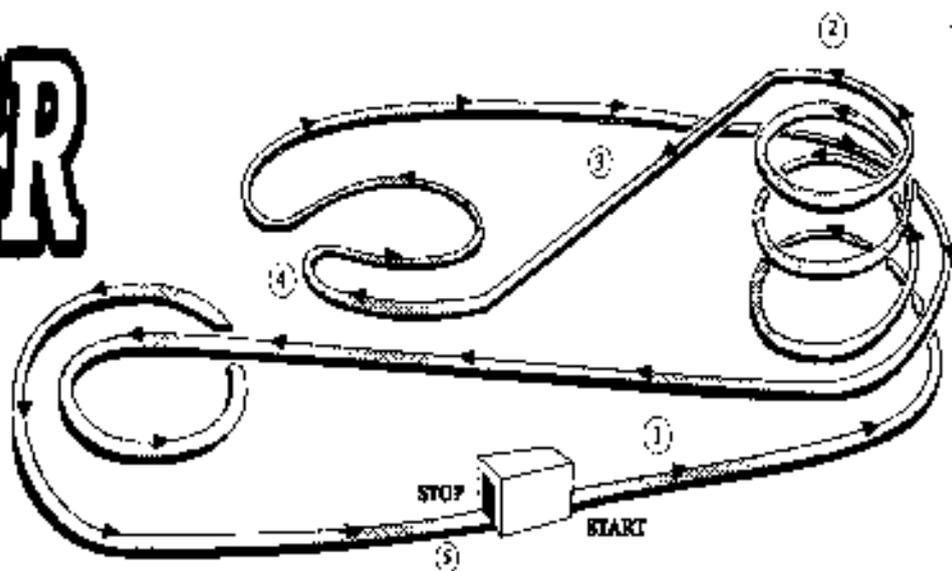


WHIZZER



1. At which point(s) during the ride is force exerted on the train of cars by:
(a) an electric motor; (b) gravity; (c) friction?
2. Describe places on the ride where:
(a) potential energy is being converted into kinetic energy.
(b) kinetic energy is being converted into potential energy.
(c) potential energy remains constant.
(d) kinetic energy is decreasing without an increase in potential energy.
3. Determine the maximum height of the Whizzer.
4. Determine the potential energy of a train of cars and passengers when they are at their maximum height.
5. How much work must the electric motor do in order to lift a full train to the top of the high rise on the Whizzer? Assume no friction.
6. Determine the horsepower of the electric motor used to lift the train to the top of the high rise.
7. Explain why the spiraling track of the Whizzer becomes progressively more banked from top to bottom.
8. Where during the ride is the inward, or centripetal, force exerted by the track on the cars the (a) least; (b) greatest; (c) zero.
9. Determine the net work done on you for the entire trip around the Whizzer.
10. Determine the total amount of work done by friction on you during the entire trip.

WHIZZER

11. Use the diagram on the previous page and record the location of the following:

___ Maximum speed

___ Minimum speed

___ Maximum potential energy

___ Minimum potential energy

___ Maximum kinetic energy

___ Minimum kinetic energy

___ Weightless sensation

___ Heavy sensation