

PHYSICS PROBLEMS:

Physics Vocabulary: Acceleration, balanced and unbalanced forces, centripetal force, energy, force, friction, g, gravitational force, gravity, inertia, kinetic energy, mass, momentum, Newton's First Law of Motion, Newton's Second Law of Motion, Newton's Third Law of Motion, period, potential energy, speed, velocity, weight, weightlessness,

1. Sea Dragon problem: The Sea Dragon is basically a pendulum which is a design used in various engineering jobs. This design and the ride will help you understand the principles of gravity, motion, inertia, and centripetal force
 - a.) Begin by defining these terms: gravity, motion, inertia and centripetal force
 - b.) Next review Sir Isaac Newton's First Law of Motion, summarize this and be prepared to explain it to a classmate
OBSERVE the Ride and answer the following:
 - c.) A motor starts the ride however once started the ride continues on its own-how do you explain this?
 - d.) The ride swings from side to side, it does not pick up speed and swing completely around-what keeps the ride from swinging in a 360 degree pattern?
 - e.) The ride is brought to a stop by an operator applying brakes-is this necessary-explain what would happen if brakes were not applied and why
 - f.) What are some other examples or applications of pendulums?

2. Extreme DROP: Observe this ride and explain how each of the following applies to this ride.
 - a.) Lift
 - b.) Suspension
 - c.) Acceleration
 - d.) Gravity
 - e.) Explain how you could increase the speed of the "drop" of the ride
 - f.) Explain how you could decrease the speed of the "drop" of the ride