

2 Lecture - PHY101

Important Subjective

What is kinematics?

Answer: Kinematics is the branch of physics that deals with the study of the motion of objects without considering the forces that cause that motion.

What is displacement?

Answer: Displacement is the change in position of an object. It is a vector quantity, which means it has both magnitude and direction.

What is velocity?

Answer: Velocity is the rate at which an object changes its position. It is also a vector quantity, and its magnitude is equal to the speed of the object.

What is acceleration?

Answer: Acceleration is the rate at which an object changes its velocity. It is also a vector quantity, and its magnitude is equal to the rate of change of velocity.

What is the equation for average velocity?

Answer: The equation for average velocity is $v = \Delta x / \Delta t$, where v is the average velocity, Δx is the change in displacement, and Δt is the change in time.

What is the equation for average acceleration?

Answer: The equation for average acceleration is $a = \Delta v / \Delta t$, where a is the average acceleration, Δv is the change in velocity, and Δt is the change in time.

What is free fall?

Answer: Free fall is the motion of an object that is falling under the influence of gravity, with no other forces acting on it.

What is the acceleration due to gravity?

Answer: The acceleration due to gravity is a constant rate of 9.8 meters per second squared (m/s^2) near the Earth's surface.

What is the equation for velocity in free fall?

Answer: The equation for velocity in free fall is $v = gt$, where v is the velocity, g is the acceleration due to gravity, and t is the time elapsed since the object was dropped.

What is the equation for distance traveled by an object in free fall?

Answer: The equation for the distance traveled by an object in free fall is $d = (1/2)gt^2$, where d is the distance traveled by the object in free fall, g is the acceleration due to gravity, and t is the time elapsed since the object was dropped.