Introduction to Newton's Laws of Motion

Physics is the study of matter, energy, and the interactions between them. In this lesson, we'll explore **Newton's Laws of Motion**.

Table of Contents

Newton's First Law

> An object at rest stays at rest and an object in motion stays in motion unless acted upon by an external force.

- Also known as the **Law of Inertia**.
- Example: A book on a table remains at rest unless pushed.

Newton's Second Law

Newton's Second Law relates force, mass, and acceleration:

$$F = m \cdot a$$

Where: - F = Force (Newtons) - m = Mass (kg) - a = Acceleration (m/s^2)

Example Calculation: