

SECTION OVERVIEW

Unit 1: Mechanics I - Motion and Forces

Chapter 1: Kinematics

- 1.1: Introduction to One-Dimensional Kinematics
- 1.2: Displacement
- 1.3: Vectors, Scalars, and Coordinate Systems
- 1.4: Time, Velocity, and Speed
- 1.5: Acceleration
- 1.6: Motion Equations for Constant Acceleration in One Dimension
- 1.7: Falling Objects
- 1.8: Projectile Motion
- 1.9: Centripetal Acceleration
- 1.E: Kinematics (Exercise)

Chapter 2: Dynamics

- 2.1: Introduction to Dynamics- Newton's Laws of Motion
- 2.2: Development of Force Concept
- 2.3: Newton's First Law of Motion- Inertia
- 2.4: Newton's Second Law of Motion- Force and Acceleration
- 2.5: Newton's Third Law of Motion- Symmetry in Forces
- 2.6: Normal Force and Tension
- 2.7: Spring Force- Hooke's Law
- 2.8: Friction
- 2.9: Newton's Universal Law of Gravitation
- 2.10: Centripetal Force
- 2.E: Dynamics (Exercise)

Thumbnail: A Newton's cradle, named after physicist Isaac Newton. (CC BY-SA 3.0; [Dominique Toussaint](#) via [Wikipedia](#))

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