

Physics 12 – Homework Assignments

OpenStax Textbook & SNAP Workbook

Unit 1: Vectors & 2D Kinematics

Textbook (OpenStax)

Complete all **odd-numbered questions** from the following sections:

- Chapter 5: Sections 5.1, 5.2, 5.3

Workbook (SNAP 12)

Complete the following sections:

- Addition of Vectors on a Plane
- Vector Components
- Velocity Vectors and Navigation
- Projectile Motion
- Projectiles – Thrown at an Angle

Unit 2: Momentum & Impulse

Textbook (OpenStax)

Complete all **odd-numbered questions** from the following sections:

- Chapter 8: All sections

Workbook (SNAP 12)

Complete the following sections:

- Momentum
- Collision
- Two-Dimensional Interaction

Unit 3: Rigid Body Mechanics

Textbook (OpenStax)

Complete all **odd-numbered questions** from the following sections:

- Chapter 6: All sections
- Chapter 9: Section 9.3

Workbook (SNAP 12)

Complete the following sections:

- The First Condition of Equilibrium
- The Second Condition of Equilibrium
- Circular Motion
- Vertical Circular Motion

Unit 4: Gravitation & Astrophysics

Textbook (OpenStax)

Complete all **odd-numbered questions** from the following sections:

- Chapter 7: All sections
- Chapter 22: Section 22.5

Workbook (SNAP 12)

Complete the following sections:

- Newton's Law of Universal Gravitation
- Field Explanation
- Gravitational Potential Energy
- Satellites: Natural and Artificial
- Satellites in Orbit

Unit 5: Electrostatics

Textbook (OpenStax)

Complete all **odd-numbered questions** from the following sections:

- Chapter 18: Sections 18.2, 18.3, 18.4, 18.5

Workbook (SNAP 12)

Complete the following sections:

- Electrostatics
- Field Explanation
- Electric Potential Due to a Point
- Electric Potential in a Uniform Electric Field

Unit 6: Electromagnetism

Textbook (OpenStax)

Complete all **odd-numbered questions** from the following sections:

- Chapter 20: All sections

Workbook (SNAP 12)

Complete the following sections:

- Magnetic Forces and Fields
- Magnetic Forces on Current-Carrying Conductors
- Cathode Rays
- Electromagnetic Induction
- Electric Generator
- EMF Continued
- Transformers (Induction Coil)
- Power Transmission

Unit 7: Atomic & Nuclear Physics

Textbook (OpenStax)

Complete all **odd-numbered questions** from the following sections:

- Chapter 21: All sections
- Chapter 22: Sections 22.1, 22.2, 22.3, 22.4

Workbook (SNAP 11)

Complete the following sections:

- Nuclear Physics

Unit 8: Relativity & Particles

Textbook (OpenStax)

Complete all **odd-numbered questions** from the following sections:

- Chapter 10: All sections
- Chapter 23: All sections

Workbook (SNAP 11)

Complete the following sections:

- Special Theory of Relativity
- Length Contraction
- Mass Increase
- Relativistic Addition of Velocities

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