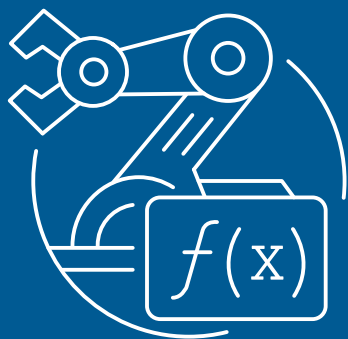


AP PHYSICS C: MECHANICS

Exam Information



Exam Overview

The AP Physics C: Mechanics Exam assesses student application of the science practices and understanding of the learning objectives outlined in the course framework. The exam is 1 hour and 30 minutes long and includes 35 multiple-choice questions and 3 free-response questions. A four-function, scientific, or graphing calculator is allowed on both sections of the exam. The details of the exam, including exam weighting and timing, can be found below:

Section	Number and Type of Questions	Number of Questions	Weighting	Timing
I	Multiple-choice questions	35	50%	45 minutes
II	Free-response questions (15 points each)	3	50%	45 minutes

The exam assesses content from each of four big ideas for the course:

Big Idea 1: Change

Big Idea 2: Force Interactions

Big Idea 3: Fields

Big Idea 4: Conservation

The exam also assesses each of the seven units of the course with the following weightings of the multiple-choice section of the AP Exam:

Exam Weighting for the Multiple-Choice Section of the AP Exam

Unit of Instruction	Weighting
Unit 1: Kinematics	14–20%
Unit 2: Newton's Laws of Motion	17–23%
Unit 3: Work, Energy, and Power	14–17%
Unit 4: Systems of Particles and Linear Momentum	14–17%
Unit 5: Rotation	14–20%
Unit 6: Oscillations	6–14%
Unit 7: Gravitation	6–14%

How Student Learning Is Assessed on the AP Exam

The AP Physics C: Mechanics science practices are assessed on the AP Exam in the multiple-choice and free-response sections as detailed below.

Section I: Multiple-Choice

Practices 1, 2, 4, 5, 6, and 7 are assessed in the multiple-choice section with the following weighting (Science Practice 3 will not be assessed in the multiple-choice section):

Exam Weighting for the Multiple-Choice Section of the AP Exam

Science Practices	Weighting
Practice 1: Visual Representations	14–17%
Practice 2: Question and Method	3–6%
Practice 4: Data Analysis	14–17%
Practice 5: Theoretical Relationships	25–34%
Practice 6: Mathematical Routines	14–20%
Practice 7: Argumentation	14–20%

Section II: Free-Response

All of the AP Physics C: Mechanics science practices are assessed in the free-response section with the following weightings:

Exam Weighting for the Free-Response Section of the AP Exam

Science Practices	Weighting
Practice 1: Visual Representations	4–7%
Practice 2: Question and Method	6–11%
Practice 3: Representing Data and Phenomena	13–20%
Practice 4: Data Analysis	8–13%
Practice 5: Theoretical Relationships	20–24%
Practice 6: Mathematical Routines	20–24%
Practice 7: Argumentation	11–18%

One of the three free-response questions will include an experimental or lab-based component.

Task Verbs Used in Free-Response Questions

The following task verbs are commonly used in the free-response questions.

- **Calculate:** Perform mathematical steps to arrive at a final answer, including algebraic expressions, properly substituted numbers, and correct labeling of units and significant figures. Also phrased as “What is?”
- **Compare:** Provide a description or explanation of similarities and/or differences.
- **Derive:** Perform a series of mathematical steps using equations or laws to arrive at a final answer.
- **Describe:** Provide the relevant characteristics of a specified topic.
- **Determine:** Make a decision or arrive at a conclusion after reasoning, observation, or applying mathematical routines (calculations).
- **Estimate:** Roughly calculate numerical quantities, values (greater than, equal to, less than), or signs (negative, positive) of quantities based on experimental evidence or provided data. When making estimations, showing steps in calculations are not required.
- **Explain:** Provide information about how or why a relationship, process, pattern, position, situation, or outcome occurs, using evidence and/or reasoning to support or qualify a claim. Explain “how” typically requires analyzing the relationship, process, pattern, position, situation, or outcome; whereas, explain “why” typically requires analysis of motivations or reasons for the relationship, process, pattern, position, situation, or outcome.
- **Justify:** Provide evidence to support, qualify, or defend a claim, and/or provide reasoning to explain how that evidence supports or qualifies the claim.
- **Label:** Provide labels indicating unit, scale, and/or components in a diagram, graph, model, or representation.
- **Plot:** Draw data points in a graph using a given scale or indicating the scale and units, demonstrating consistency between different types of representations.
- **Sketch/Draw:** Create a diagram, graph, representation, or model that illustrates or explains relationships or phenomena, demonstrating consistency between different types of representations. Labels may or may not be required.

- **State/Indicate/Circle:** Indicate or provide information about a specified topic, without elaboration or explanation. Also phrased as “What...?” or “Would...?” interrogatory questions.
- **Verify:** Confirm that the conditions of a scientific definition, law, theorem, or test are met in order to explain why it applies in a given situation. Also, use empirical data, observations, tests, or experiments to prove, confirm, and/or justify a hypothesis.