

# Ap Bio Frq 2017

fiveable

## Question 1 Analysis (22 min)

**Step 1: Read the question carefully.** Then re-read if needed and break it down.

Let's look at key points in the question to break it down.

Ex: Pollination produces seeds, flowers attract bees, bees use nectar to make honey, honey can contain sugar and caffeine.

**Step 2: Summarize the question in your own words.**

Ex: Scientist test the effect of caffeine on bee's memory.

**Step 3: Answer the parts by staying organized!** Make sure to label your paper part A, part b, ect.



Part A: how should we graph this information? What is need on the x-axis, y-axis and so on?

Part B: describe the effect of caffeine...

Part C: what is a null hypothesis? What are controls? What are variables?

Part D:



## Demystifying the AP Bio FRQ 2017: A Comprehensive Guide

Are you a high school student grappling with the complexities of the Advanced Placement Biology exam? The free-response questions (FRQs) are notoriously challenging, and the 2017 AP Biology FRQs were no exception. This comprehensive guide will dissect the 2017 AP Biology FRQs, providing detailed explanations, strategies for tackling similar questions, and valuable insights to help you ace your own AP Biology exam. Whether you're prepping for the upcoming exam or simply want to understand the intricacies of these challenging questions, you've come to the right place. We'll cover each question in detail, focusing on the key concepts tested and the best approaches to formulating well-structured, high-scoring responses.

## Understanding the Structure of AP Bio FRQs

Before diving into the specifics of the 2017 questions, let's briefly review the general structure and expectations of AP Biology FRQs. Typically, these questions assess your understanding of core biological principles through a combination of:

Knowledge recall: Demonstrating your understanding of key terms, concepts, and processes.

Application: Applying your knowledge to novel scenarios and interpreting data.

Analysis: Analyzing data, identifying patterns, and drawing logical conclusions.

Reasoning and explanation: Justifying your answers with clear, concise, and scientifically accurate explanations.

## **AP Bio FRQ 2017: Question 1 - Cell Communication**

This question focused on cell communication, a cornerstone of biology. It likely presented a scenario involving signal transduction pathways, perhaps involving hormones or other signaling molecules. A high-scoring answer would have demonstrated a clear understanding of receptor binding, signal amplification, and downstream effects within the cell. Key concepts to review: receptor types, second messengers, G-protein coupled receptors, kinase cascades, and cellular responses. Practice drawing and explaining these pathways; accurate diagrams are highly valued.

## **AP Bio FRQ 2017: Question 2 - Enzyme Activity**

This FRQ likely explored enzyme kinetics and the factors that influence enzyme activity. Expect questions about enzyme structure, the effects of temperature, pH, substrate concentration, and the presence of inhibitors (competitive and non-competitive). Key concepts to master: enzyme-substrate complex formation, Michaelis-Menten kinetics, graphs illustrating enzyme activity, and the different types of enzyme inhibition. Practice interpreting graphs and explaining the underlying biological principles.

## **AP Bio FRQ 2017: Question 3 - Population Ecology**

This question likely delved into population dynamics, focusing on factors affecting population growth, carrying capacity, and species interactions. You might have been asked to interpret data related to population size, birth and death rates, or resource availability. Key concepts to review: exponential and logistic growth models, density-dependent and density-independent factors, predator-prey relationships, competitive exclusion, and niche partitioning. Mastering these concepts is crucial for answering population ecology questions effectively.

## **AP Bio FRQ 2017: Question 4 - Plant Biology (Likely Photosynthesis or Plant Responses)**

This FRQ probably involved plant biology, potentially focusing on photosynthesis or plant responses to environmental stimuli. Expect questions about the light-dependent and light-independent reactions of photosynthesis, or plant tropisms (phototropism, gravitropism). Key concepts to master: photosynthetic pigments, electron transport chains, ATP and NADPH production, auxins, and other plant hormones. Practice explaining these processes using clear diagrams and precise terminology.

# **AP Bio FRQ 2017: Question 5 - Genetics (Likely Mendelian or Molecular Genetics)**

This question likely focused on genetics, potentially covering Mendelian inheritance patterns or molecular genetics. Expect questions involving Punnett squares, pedigree analysis, or molecular mechanisms of gene expression. Key concepts to review: Mendel's laws, gene linkage, crossing over, DNA replication, transcription, translation, and mutations. Practice solving genetics problems and explaining genetic concepts clearly and concisely.

## **Strategies for Success on AP Bio FRQs**

Practice, Practice, Practice: Work through as many past FRQs as possible.

Develop a strong understanding of core concepts: Don't just memorize facts; strive for a deep understanding of biological principles.

Organize your answers clearly: Use clear headings, diagrams, and concise explanations.

Allocate your time effectively: Manage your time carefully during the exam to ensure you answer all questions.

Review the scoring rubric: Understand what constitutes a high-scoring response.

## **Conclusion**

Mastering the AP Biology FRQs requires a dedicated approach combining a strong understanding of core concepts and consistent practice. By thoroughly reviewing the key concepts discussed above and practicing with past FRQs, you can significantly improve your chances of success on the AP Biology exam. Remember, clear communication and precise scientific language are essential for achieving a high score. Good luck!

## **FAQs**

1. Where can I find the actual 2017 AP Biology FRQs? You can typically find past FRQs on the College Board website or through reputable AP Biology review books.

2. Are there sample answers available for the 2017 FRQs? While the College Board doesn't always release official sample answers, many AP Biology review books and online resources offer solutions and explanations.

3. What is the best way to study for the FRQs? A combination of thorough content review, practice

with past FRQs, and seeking feedback on your answers is highly effective.

4. How much weight do the FRQs carry on the AP Biology exam? The FRQs constitute a significant portion of the overall exam score; precise weighting may vary slightly from year to year. Check the College Board website for the most up-to-date information.

5. What if I don't know the answer to a question? It's better to attempt an answer, even if it's incomplete, than to leave the question blank. Partial credit may be awarded for demonstrating some understanding of the concepts involved.

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**ap bio frq 2017:** *Understanding by Design* Grant P. Wiggins, Jay McTighe, 2005 What is understanding and how does it differ from knowledge? How can we determine the big ideas worth understanding? Why is understanding an important teaching goal, and how do we know when students have attained it? How can we create a rigorous and engaging curriculum that focuses on understanding and leads to improved student performance in today's high-stakes, standards-based environment? Authors Grant Wiggins and Jay McTighe answer these and many other questions in this second edition of *Understanding by Design*. Drawing on feedback from thousands of educators around the world who have used the UbD framework since its introduction in 1998, the authors have greatly revised and expanded their original work to guide educators across the K-16 spectrum in the design of curriculum, assessment, and instruction. With an improved UbD Template at its core, the book explains the rationale of backward design and explores in greater depth the meaning of such key ideas as essential questions and transfer tasks. Readers will learn why the familiar coverage- and activity-based approaches to curriculum design fall short, and how a focus on the six facets of understanding can enrich student learning. With an expanded array of practical strategies, tools, and examples from all subject areas, the book demonstrates how the research-based principles of *Understanding by Design* apply to district frameworks as well as to individual units of curriculum.

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where biomacromolecules play a significant role, such as drug delivery, wound management, and regenerative medicine - Includes a detailed overview of biomacromolecule bioactivity and properties - Features chapters on research challenges, evolving applications, and future perspectives

**ap bio frq 2017: Pain Management and the Opioid Epidemic** National Academies of Sciences, Engineering, and Medicine, Health and Medicine Division, Board on Health Sciences Policy, Committee on Pain Management and Regulatory Strategies to Address Prescription Opioid Abuse, 2017-09-28 Drug overdose, driven largely by overdose related to the use of opioids, is now the leading cause of unintentional injury death in the United States. The ongoing opioid crisis lies at the intersection of two public health challenges: reducing the burden of suffering from pain and containing the rising toll of the harms that can arise from the use of opioid medications. Chronic pain and opioid use disorder both represent complex human conditions affecting millions of Americans and causing untold disability and loss of function. In the context of the growing opioid problem, the U.S. Food and Drug Administration (FDA) launched an Opioids Action Plan in early 2016. As part of this plan, the FDA asked the National Academies of Sciences, Engineering, and Medicine to convene a committee to update the state of the science on pain research, care, and education and to identify actions the FDA and others can take to respond to the opioid epidemic, with a particular focus on informing FDA's development of a formal method for incorporating individual and societal considerations into its risk-benefit framework for opioid approval and monitoring.

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verifications Applications ranging from moving load excitation of slender bridges to airflow excitation of aeroelastic sections A review of standard nonlinear energy harvesting circuits with modelling aspects.

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**ap bio frq 2017: The Beak of the Finch** Jonathan Weiner, 2014-05-14 PULITZER PRIZE WINNER • A dramatic story of groundbreaking scientific research of Darwin's discovery of evolution that spark[s] not just the intellect, but the imagination (Washington Post Book World). "Admirable and much-needed.... Weiner's triumph is to reveal how evolution and science work, and to let them speak clearly for themselves."—The New York Times Book Review On a desert island in the heart of the Galapagos archipelago, where Darwin received his first inklings of the theory of evolution, two scientists, Peter and Rosemary Grant, have spent twenty years proving that Darwin did not know the strength of his own theory. For among the finches of Daphne Major, natural selection is neither rare nor slow: it is taking place by the hour, and we can watch. In this remarkable story, Jonathan Weiner follows these scientists as they watch Darwin's finches and come up with a new understanding of life itself. *The Beak of the Finch* is an elegantly written and compelling masterpiece of theory and explication in the tradition of Stephen Jay Gould.

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- A three-pass icon system designed to help you prioritize learning what you **MUST**, **SHOULD**, and **COULD** know in the time you have available
- Ask Yourself questions to help identify areas where you might need extra attention
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