



AP^(R) Jumpstart Biology – Exam Hacks

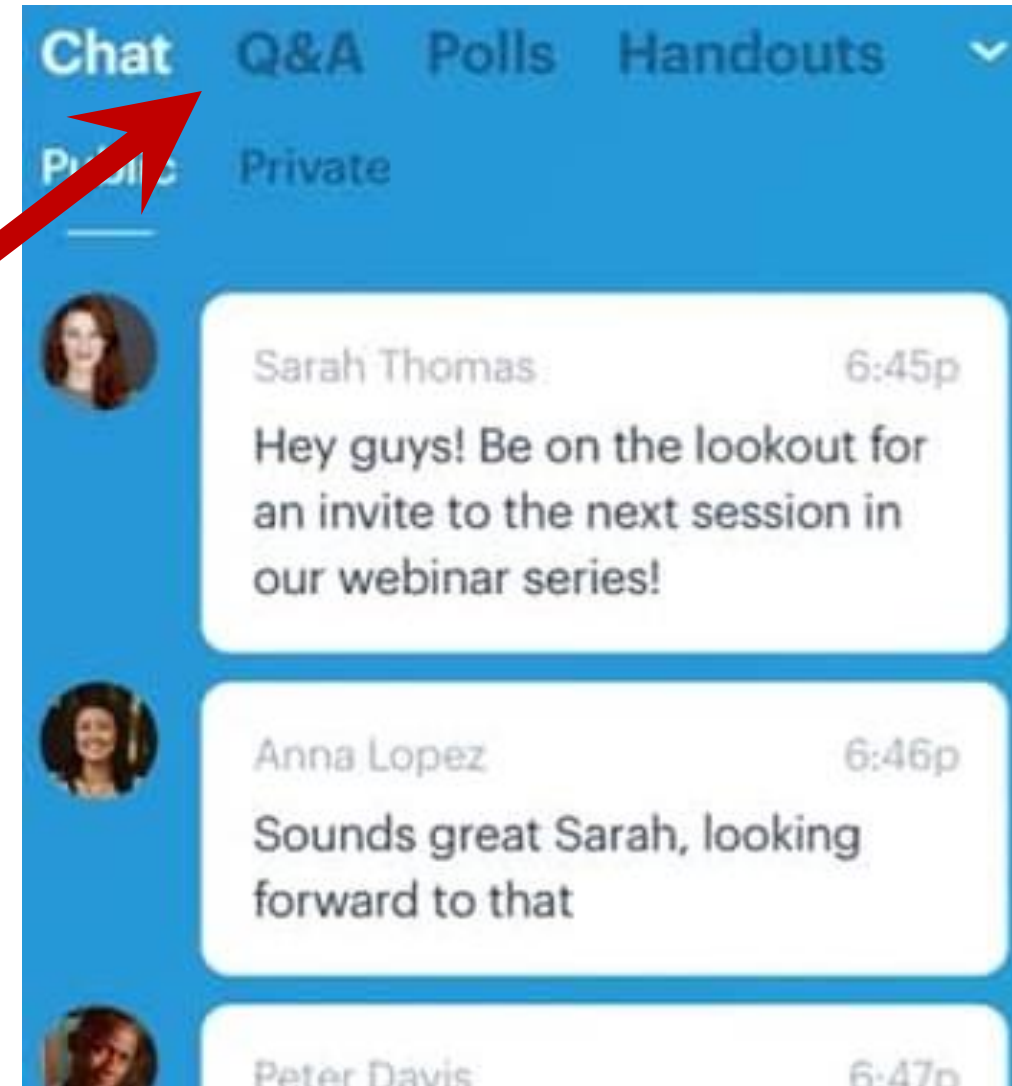
with Tiffany Jones (AP Bio Penguins)



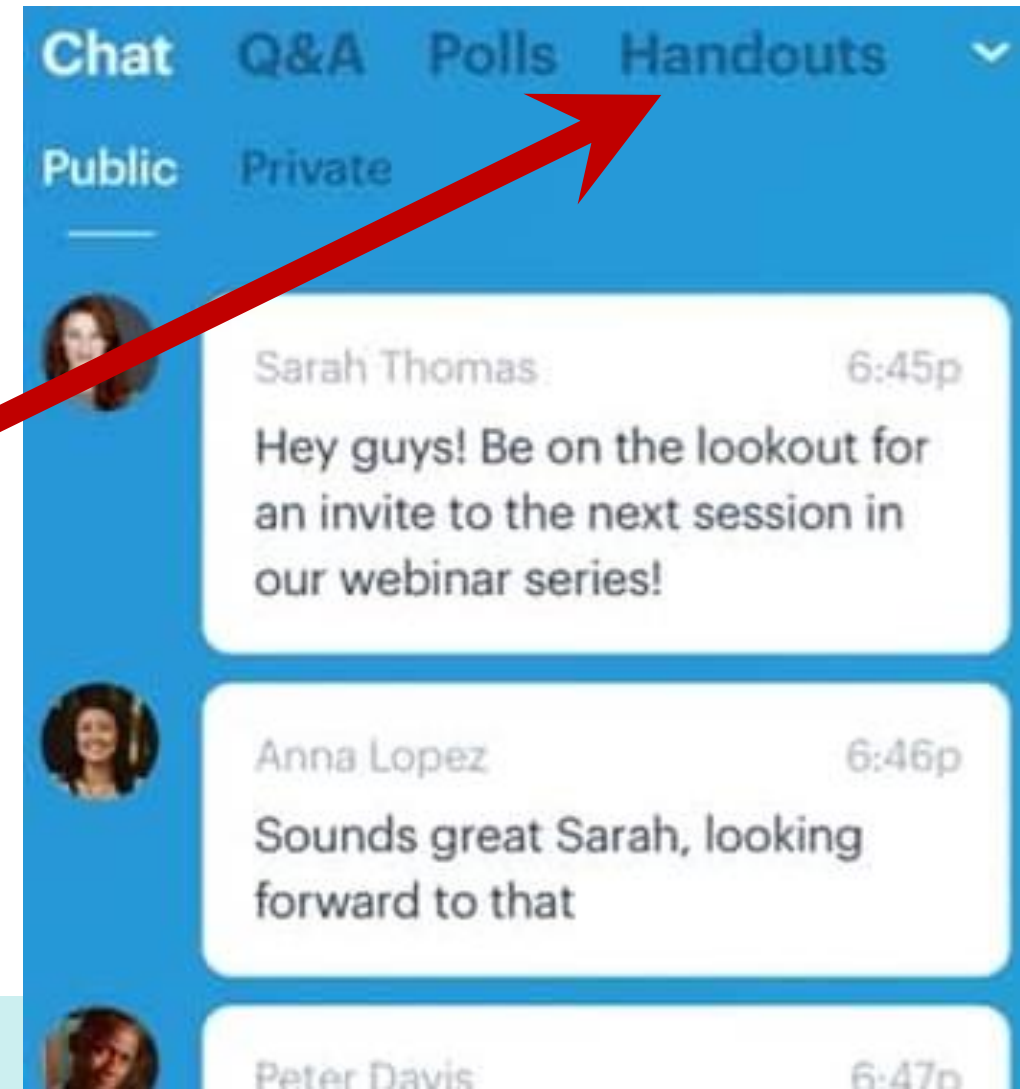
Don't be shy! Talk
to us in the **Chat**
section



Post your questions in the **Q&A Section** and upvote your favorite questions.



Download your handouts and links in the **Handouts** tab.



All sessions
**will be
recorded** and
sent to you
via email.



Recording Available

APUSH FRQ REVIEW: March 26, 2022

WATCH THE RECORDING

Hi John,

The recording for ACT Review: APUSH FRQ REVIEW: March 26, at 2 PM ET is now available to watch.

Let us know if you have any additional questions!

Webinar details:

Link
<https://www.bigmarker.com/marco-learning/2020-12-02-08-00-pm?bmid=fb38e05dc501>

About

WATCH THE RECORDING



Don't forget to
start the
recording....



AP^(R) Jumpstart Biology – Exam Hacks

with Tiffany Jones (AP Bio Penguins)



Welcome – Who Are You?

Mrs. Tiffany Jones

- 12 years of AP Biology
- Georgia
- AP Reader
- B.S. in Biology
- Ed.S. in Instructional Tech
- Creator of AP Bio Penguins



AP Biology students are
penguins because they
are Dressed for Success!

You are now an
AP Bio Penguin!



Exam Format

Section 1: Multiple Choice

Time:

90 minutes

Contents:

60 MCQs

Worth:

50% of total points

Section 2: Free Response

Time:


90 minutes

Contents:

2 Long FRQs & 4 Short FRQs

Worth:

50% of total points



46 / 120
38.3%

Based on the 2020 Practice Exam Scoring Guidelines

You need approximately 46
of the available 120 points for
a 3 on the exam

AP Exam Topic Breakdown

Units of Study	Exam Weighing	#Qs (2020)
Unit 1: Chemistry of Life	8 – 11%	5 – 7 (5.7)
Unit 2: Cell Structure and Function	10 – 13%	6 – 8 (6.7)
Unit 3: Cellular Energetics	12 – 18%	7 – 10 (9.3)
Unit 4: Cell Communication and Cell Cycle	10 – 15%	6 – 9 (6.7)

AP Exam Topic Breakdown

Units of Study	Exam Weighing	#Qs (2020)
Unit 5: Heredity	8 – 11%	5 – 7 (6)
Unit 6: Gene Expression and Regulation	12 – 16%	7 – 10 (8)
Unit 7: Natural Selection	13 – 20%	8 – 12 (9.3)
Unit 8: Ecology	10 – 15%	6 – 9 (8.3)

Multiple Choice Format

Independent Questions

Insulin is a protein hormone that is secreted in response to elevated blood glucose levels. When insulin binds to its receptors on liver cells, the activated receptors stimulate phosphorylation cascades that cause the translocation of glucose transporters to the plasma membrane.

Based on the information provided, which of the following best describes the role of insulin in this liver cell signal transduction pathway?

- (A) It acts as a ligand.
- (B) It acts as a receptor.
- (C) It acts as a secondary messenger.
- (D) It acts as a protein kinase.

Based on the 2020 Practice Exam

31 – 38 Independent Questions
22 – 29 Set Questions

Set Questions

40. Plates that have only ampicillin-resistant bacteria growing include which of the following?
- (A) I only
 - (B) III only
 - (C) IV only
 - (D) I and II
41. Which of the following best explains why there is no growth on plate II?
- (A) The initial *E. coli* culture was not ampicillin-resistant.
 - (B) The transformation procedure killed the bacteria.
 - (C) Nutrient agar inhibits *E. coli* growth.
 - (D) The bacteria on the plate were transformed.
42. Plates I and III were included in the experimental design in order to
- (A) demonstrate that the *E. coli* cultures were viable
 - (B) demonstrate that the plasmid can lose its *amp^r* gene
 - (C) demonstrate that the plasmid is needed for *E. coli* growth
 - (D) prepare the *E. coli* for transformation
43. Which of the following statements best explains why there are fewer colonies on plate IV than on plate III?
- (A) Plate IV is the positive control.
 - (B) Not all *E. coli* cells are successfully transformed.
 - (C) The bacteria on plate III did not mutate.
 - (D) The plasmid inhibits *E. coli* growth.
44. In a second experiment, the plasmid contained the gene for human insulin as well as the *amp^r* gene. Which of the following plates would have the highest percentage of bacteria that are expected to produce insulin?
- (A) I only
 - (B) III only
 - (C) IV only
 - (D) I and III

Helpful Resources

AP Bio Penguins

374 page Review Guide

120+ Quizizz Games

Topic/CED TikTok Videos

Review PowerPoints

Unit Review Videos

FRQ Fridays

@apbiopenguins (IG, TT, YT)

apbiopenguins.weebly.com



Don't forget the DAILY
review on IG stories

Helpful Resources



The APsolute RecAP

82 episodes (FREE) on any platform that offers podcasts

Guided listening sheets developed with podcast

theapsoluterecap.com

Plus... countdown to AP Exam with topic YT videos each day

Helpful Resources



Bozeman
Biology

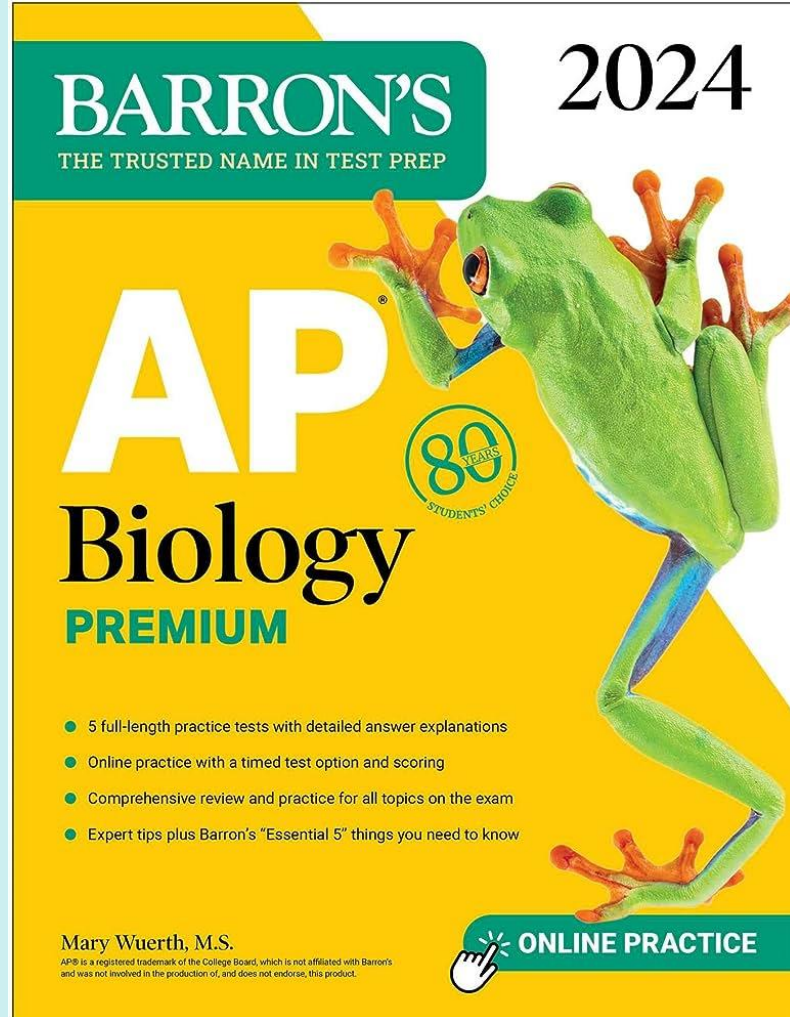


Crash
Course



Ameoba
Sisters

Helpful Resources



Barron's Review Book

Section Reviews
Section Quizzes
Practice Exams with
Explanations

Other Books:
Princeton Review
5 Steps to a 5
Pearson (Holtzclaw)

8 Week Study Plan

Unit 1: March 24 -30

Unit 2: March 31 – April 6

Unit 3: April 7 – 13

Unit 4 & 5: April 14 – 20

Unit 6: April 21 – 27

Unit 7: April 28 – May 4

Unit 8: May 5 – 11

Weaknesses: May 12 – 15

AP Bio Exam: May 16 at 12pm

30 minutes to an hour a day

Example:

Memory Monday: Read/Review

TikTok Tuesday: Watch Review

TTs/YouTube

Quizizz Wednesday: Review Games

Think About it Thursday: Review

Guide Weaknesses

FRQ Friday: Practice FRQs

2024 AP® Bio 6-Week Study Plan



Quick Resources

AP Boot Camp

Score Predictor

YouTube

TikTok

Week 1 (April 7-13)

Units 1 and 2 (Chemistry of Life; Cell Structure and Function)

[Review FRQ Task Verbs](#)

[Units 1 and 2 Review Guide](#) (p. 8-55)

[A Tour of the Cell](#)

[Chemistry of Life, Cell Structure, & Function](#)

[Units 1 and 2 Quizizz Practice](#)

Check our [events schedule](#) to join live study sessions!

Week 2 (April 14-20)

Unit 3 (Cellular Energetics)

[Unit 3 Review Guide](#) (p. 56-87)

[ATP & Respiration](#)

[Photosynthesis](#)

[Cellular Energetics](#)

[Enzymes](#)

[Unit 3 Quizizz Practice](#)

Week 3 (April 21-27)

Units 4 and 5 (Cell Communication; Cell Cycle; Heredity)

[Units 4 and 5 Review Guide](#) (p. 88-148)

[Cell Communication & the Cell Cycle](#)

[Mitosis: Splitting Up is Complicated](#)

[Cell Cycle, Mitosis and Meiosis](#)

[Signal Transduction Pathways](#)

[Mendelian Genetics](#)

[Units 4 and 5 Quizizz Practice](#)

Week 4 (April 28-May 4)

Unit 6 (Gene Expression and Regulation)

[Unit 6 Review Guide](#) (p. 149-197)

[DNA, Hot Pockets, & The Longest Word Ever](#)

[Gene Regulation](#)

[Examining Gene Expression and Regulation](#)

[Unit 6 Quizizz Practice](#)

Week 5 (May 5-11)

Unit 7 (Natural Selection)

[Unit 7 Review Guide](#) (p. 198-252)

[Natural Selection: Part 1](#)

[Natural Selection: Part 2](#)

[Solving Hardy Weinberg Problems](#)

[Unit 7 Quizizz Practice](#)

[Take a practice test](#) and [score it](#)

Week 6 (May 12-16)

Prepare for the exam

[Unit 8 Review Guide](#) (p. 253-315)

[Ecology - Rules for Living on Earth](#)

[Ecosystems](#)

[Ecology & Biological Mechanisms](#)

[Unit 8 Quizizz Practice](#)

AP Bio Exam
Thu, May 16th, 12 PM local

10 for 10 Plan

10 DAYS ✧

UNIT 1 REVIEW

- UNIT 1 REVIEW VIDEO
- UNIT 1 MC PRACTICE

9 DAYS ✧

UNIT 2 REVIEW

- UNIT 2 REVIEW VIDEO
- UNIT 2 MC PRACTICE
- UNIT 2 FRQ PRACTICE

8 DAYS ✧

UNIT 3 REVIEW

- UNIT 3 REVIEW VIDEO
- UNIT 3 MC PRACTICE
- UNIT 3 FRQ PRACTICE

7 DAYS ✧

UNIT 4 REVIEW

- UNIT 4/5 REVIEW VIDEO
- UNIT 4 MC PRACTICE
- UNIT 4 FRQ PRACTICE

6 DAYS ✧

UNIT 5 REVIEW

- UNIT 5 MC PRACTICE
- UNIT 5 FRQ PRACTICE

5 DAYS ✧

UNIT 6 REVIEW

- UNIT 5/6 REVIEW VIDEO
- UNIT 6 MC PRACTICE
- UNIT 6 FRQ PRACTICE

4 DAYS ✧

UNIT 7 REVIEW

- UNIT 7 REVIEW VIDEO
- UNIT 7 MC PRACTICE
- UNIT 7 FRQ PRACTICE

3 DAYS ✧

UNIT 8 REVIEW

- UNIT 8 REVIEW VIDEO
- UNIT 8 MC PRACTICE
- UNIT 8 FRQ PRACTICE

2 DAYS ✧

OVERALL REVIEW

- AP BIO CRAM SESSION
- UNIT 1 QUIZZZ
- UNIT 2 QUIZZZ
- UNIT 3 QUIZZZ
- UNIT 4 QUIZZZ

1 DAY ✧

OVERALL REVIEW

- 2022 AP BIO FRQ FRIDAY
- UNIT 5 QUIZZZ
- UNIT 6 QUIZZZ
- UNIT 7 QUIZZZ
- UNIT 8 QUIZZZ

Multiple Choice Timing

Keep pace

15 minutes for 10 questions = 1.5 minute/question

Use your diagrams (underline, jot notes, etc)

Read questions before the long prompts to hone you
into the important information

If a component of the MC answer choice is wrong,
mark it out

Nothing blank



Annotate your Questions

Underline important words as
you read the question

“Jot down” notes that could
help you with the question

Multiple Choice Strategy

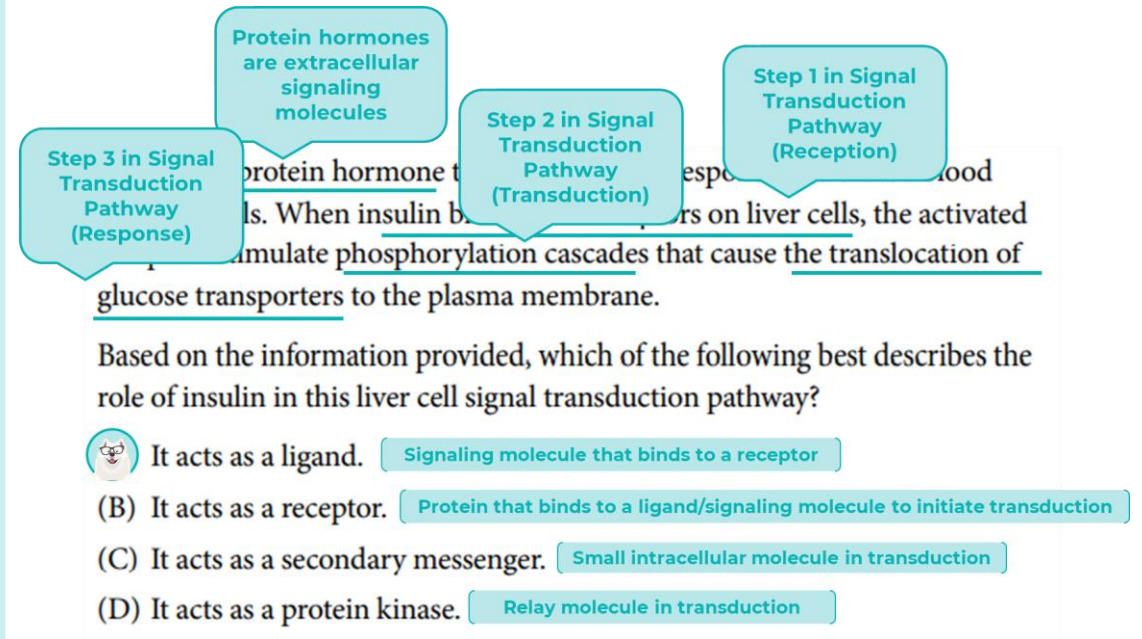
Question

Insulin is a protein hormone that is secreted in response to elevated blood glucose levels. When insulin binds to its receptors on liver cells, the activated receptors stimulate phosphorylation cascades that cause the translocation of glucose transporters to the plasma membrane.

Based on the information provided, which of the following best describes the role of insulin in this liver cell signal transduction pathway?

- (A) It acts as a ligand.
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- (C) It acts as a secondary messenger.
- (D) It acts as a protein kinase.

Strategy



Trust your Knowledge

*Cover up the answer choices
and develop your own answer
then check if it's an option*

Multiple Choice Strategy

Question

2. Humans have a diploid number ($2n$) of 46. Which of the following statements best predicts the consequence if meiosis did not occur during gametogenesis?
- (A) The gametes would get larger from one generation to the next.
 - (B) The chromosome number would double with each generation.
 - (C) The chromosome number would be halved with each generation.
 - (D) The chromosome number would triple with each generation.

Strategy

2. Humans have a diploid number ($2n$) of 46. Which of the following statements best predicts the consequence if meiosis did not occur during gametogenesis?

Use your Resources

Use the figures or diagrams to help you answer the questions

Multiple Choice Strategy

Question

10. A student used a microscope to observe a wet-mount slide of red onion epidermal cells that were suspended in a 1% NaCl solution. The student then added a 15% NaCl solution to the slide and observed the changes that occurred. The student's observations are represented in Figure 1.

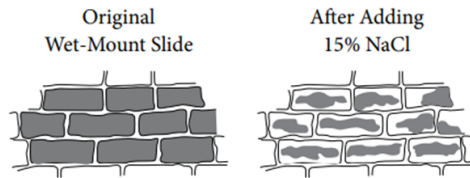


Figure 1. Student's observations of onion cells

Which of the following most directly explains the changes in the cells?

- (A) The degradation of DNA in the nuclei of the cells
- (B) The lysis of chloroplasts in the cells
- (C) The movement of water from the central vacuoles of the cells into the solution
- (D) The movement of NaCl from the solution into the cytoplasm of the cells

Strategy

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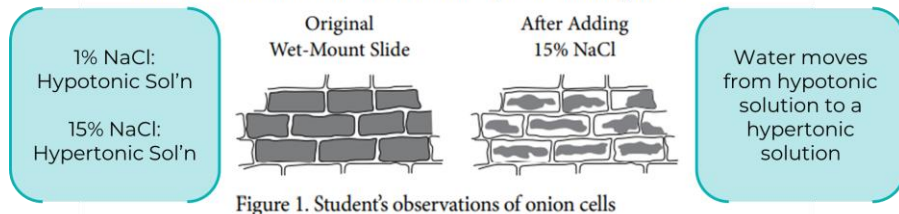


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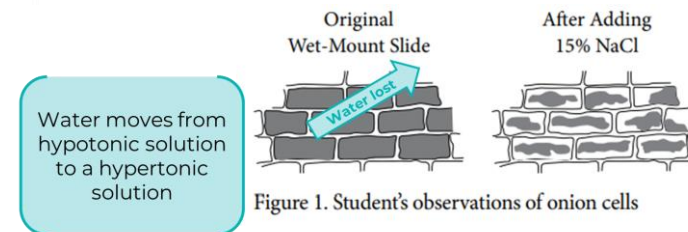


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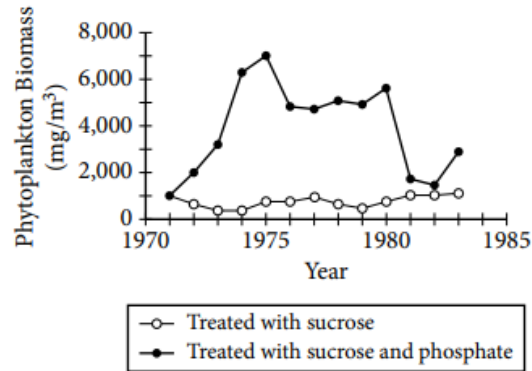
Annotate your Diagrams

*Write on the graphs
and show your work*

Multiple Choice Strategy

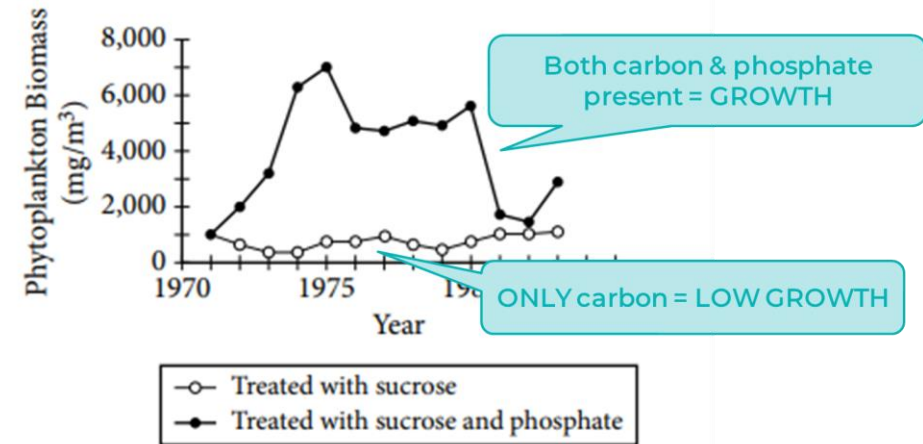
Question

Questions 4–7 refer to the following material.



4. Which of the following claims is best supported by the data?
- (A) Carbon was a limiting factor for phytoplankton in the lake.
 - (B) Phosphate was a limiting factor for phytoplankton in the lake.
 - (C) Both carbon and phosphate were limiting factors for phytoplankton in the lake.
 - (D) Neither carbon nor phosphate was a limiting factor for phytoplankton in the lake.

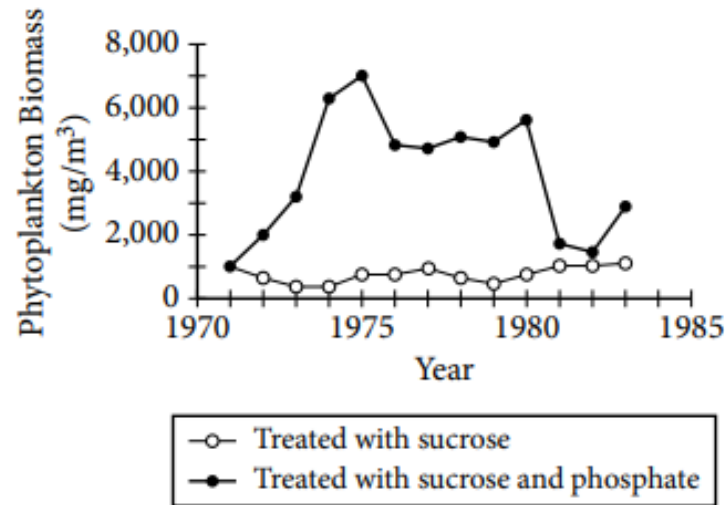
Strategy



4. Which of the following claims is best supported by the data?
- (A) Carbon was a limiting factor for phytoplankton in the lake.
 - ☒ (B) Phosphate was a limiting factor for phytoplankton in the lake.
 - (C) Both carbon and phosphate were limiting factors for phytoplankton in the lake.
 - (D) Neither carbon nor phosphate was a limiting factor for phytoplankton in the lake.

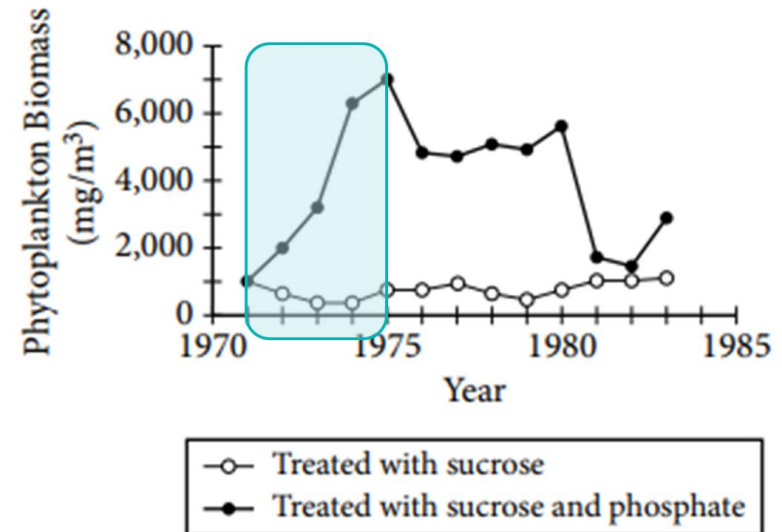
Multiple Choice Strategy

Question



5. The average growth rate of the phytoplankton population from 1971 to 1975 in the side of the lake treated with sucrose and phosphate is closest to which of the following?
- (A) 125 (mg/m³)/year
(B) 1,000 (mg/m³)/year
(C) 1,500 (mg/m³)/year
(D) 6,000 (mg/m³)/year

Strategy



(1971, 1000) & (1975, 7000)

$$\text{rate} = \text{slope} = \frac{\Delta y}{\Delta x}$$

$$\text{rate} = \frac{(7000 - 1000)}{(1975 - 1971)}$$

$$\text{rate} = \frac{6000}{4} = 1500$$

Extra Practice Problems

AP Classroom – Progress Performance Checks
(ask your teacher)

Quizizz Review Games (content reviews)

2013 Released Practice Exam

AP Bio Penguins Review Guide – Section Reviews



Free Response Timing:

Approximate:

25 min per long & 10 min per short

Recommendation:

20 min per long & 8 min per short

Time on Page

Checkboxes for each bold task

Order of Knowledge/Ability

Watch your question number





Free Response Format:

TWO booklets (question book/response book)

SPECIFIC Questions on SPECIFIC pages

ALL answers should be on the response book

Write in PEN (black/dark blue) – not eraseable!

Graph in pencil (cover with pen, if time permits)

WRITE LEGIBLY!!!

Label your sections (a), (b), (c), & (d)

Single line cross out

COMPLETE sentences

NEW Format for FRQs

Polycystic kidney disease (PKD) is an inherited disease that causes water loss from the body and affects cell division in the kidneys. Because water movement across cell membranes is related to ion movement, scientists investigated the role of the $\text{Na}^+/\text{K}^+\text{ATPase}$ (also known as the sodium/potassium pump) in this disease. Ouabain, a steroid hormone, binds to the $\text{Na}^+/\text{K}^+\text{ATPase}$ in plasma membranes.

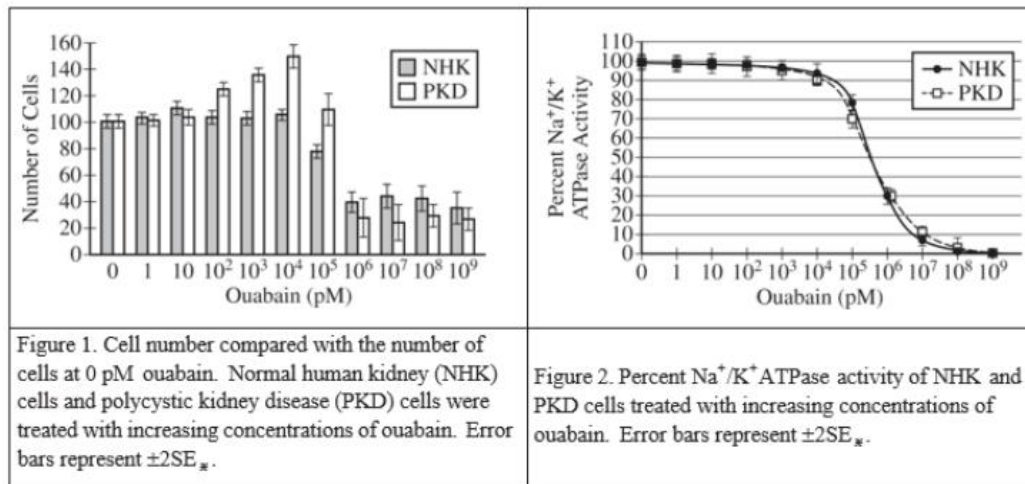
(a)

- (i) **Describe** the characteristics of the plasma membrane that prevent simple diffusion of Na^+ and K^+ across the membrane.
- (ii) **Explain** why ATP is required for the activity of the $\text{Na}^+ / \text{K}^+\text{ATPase}$.



NEW Format for FRQs

Individuals with PKD have a genetic mutation that results in an increased binding of ouabain to the $\text{Na}^+/\text{K}^+\text{ATPase}$. The scientists treated normal human kidney (NHK) cells and PKD cells with increasing concentrations of ouabain and measured the number of cells (Figure 1) and the activity of the $\text{Na}^+/\text{K}^+\text{ATPase}$ (Figure 2) after a period of time. The scientists hypothesized that a signal transduction pathway that includes the protein kinases MEK and ERK (Figure 3) may play a role in PKD symptoms.



- (b)
- (i) **Identify** a dependent variable in the experiment represented in Figure 1.
 - (ii) **Justify** the use of normal human kidney (NHK) cells as a control in the experiments.
 - (iii) **Justify** the use of a range of ouabain concentrations in the experiment represented in Figure 1.



Free Response Strategies

Read the question, Read the question, Read the ...

Do not restate the question

Additional examples are not scored

Beware of contradictions

Use the diagrams

Define your terms

Don't forget that AP Bio Penguins
has a FRQ Friday video going over all
of the FRQs from 2013 - 2023



FRQ Section Breakdown

#	Topic	Points
1	Interpret & Evaluate Experimental Results	8 – 10
2	Interpret & Evaluate Experimental Results with Graphing	8 – 10

Long FRQ
Total:
18 points



FRQ Section Breakdown

#	Topic	Points
3	Scientific Investigation	4
4	Conceptual Analysis	4
5	Analyze Model or Visual Representation	4
6	Analyze Data	4

Short FRQ
Total:
16 points





FRQ #1

Part A (1-2 pts): **Describe** and **explain** biological concepts, processes, or models

Part B (3-4 pts): **Identify** experimental design procedures

Part C (1-3 pts): **Analyze** data

Part D (2-4 pts): Make and **justify** predictions

FRQ #2

Part A (1-2 pts): **Describe** and **explain** biological concepts, processes, or models

Part B (4 pts): **Construct** a graph, plot, or chart and use confidence intervals or error bars

Part C (1-3 pts): **Analyze** data

Part D (2-4 pts): Make and **justify** predictions



FRQ #3

Part A (1 pt): **Describe** biological concepts, or processes

Part B (1 pt): **Identify** experimental procedures

Part C (1 pt): **Predict** results

Part D (1 pt): **Justify** predictions



FRQ #4

Part A (1 pt): **Describe** biological concepts, or processes

Part B (1 pt): **Explain** biological concepts or processes

Part C (1 pt): **Predict** cause or effects of a change in a biological system

Part D (1 pt): **Justify** predictions



FRQ #5

Part A (1 pt): **Describe** characteristics of a biological concept, process, or model represented visually.

Part B (1 pt): **Explain** relationships between different characteristics of a biological concept or process represented visually

Part C (1 pt): **Represent** relationships within a biological model

Part D (1 pt): **Explain how** a biological concept or process represented visually relates to a larger biological principle, concept, process or theory



FRQ #6

Part A (1 pt): **Describe** data

Part B (1 pt): **Describe** data

Part C (1 pt): Use data to **evaluate** a hypothesis or prediction

Part D (1 pt): **Explain how** experimental results relate to biological principles, concepts, processes, or theories



Extra Practice Problems

AP Classroom – Progress Performance Checks

AP Central FRQs

2013 Released Practice Exam

AP Bio Penguins Review Guide – Section Reviews

AP Bio Penguins – FRQ Fridays



AP Bio Misconceptions

Unit 1

Relationship between
 H^+ ions and pH

Bonds differ in
strength & type

Differences in
macromolecules

Unit 2

Movement of water/tonicity

Integration of organelles

AP Bio Misconceptions

Unit 3

ATP Synthase

Enzyme Reactivity vs.
Substrate Concentration

NADH, NADPH, FADH₂

Plants undergo BOTH Cell
Respiration & Photosynthesis

Unit 4

Nondisjunction

Positive vs. Negative
Feedback

Ligands

Signal Transduction

AP Bio Misconceptions

Unit 5

Monohybrid vs. Dihybrid

Punnett Square Probability

Linkage vs. Independent
Assortment

Unit 6

Directionality in replication,
transcription, & translation

AP Bio Misconceptions

Unit 7

Lamarckian Statements

Allopatric Speciation

Extant vs. Extinct

Unit 8

INDEX

(always subtract from 1)

Feeding arrows in
food webs/food chains

Science Practice

Null hypothesis

DV, IV, control

Error bars

Types of Graphs

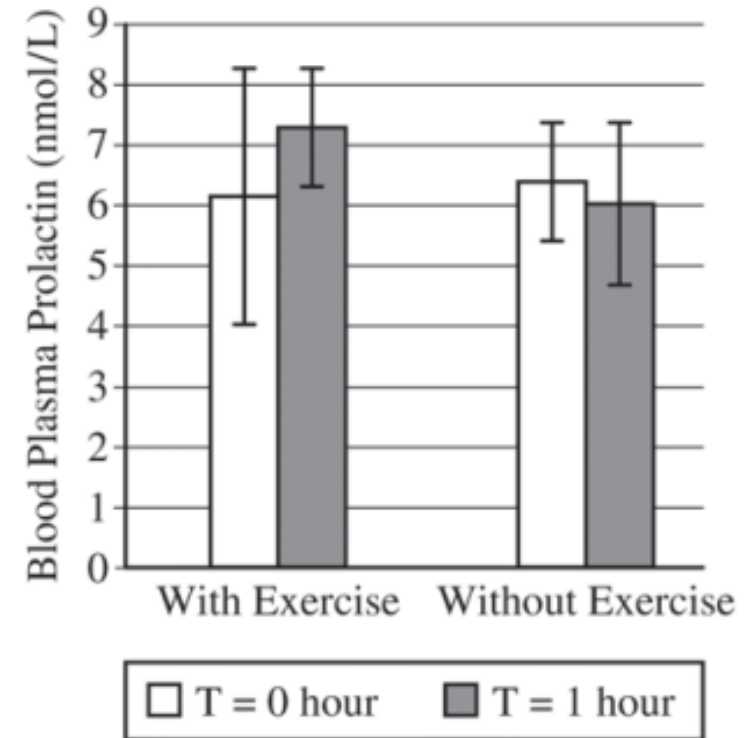


Figure 1. Effect of exercise on blood prolactin levels in adult males. The data represent the means $\pm 2SE_{\bar{x}}$.

Helpful Resources

AP Bio Penguins

374 page Review Guide

120+ Quizizz Games

Topic/CED TikTok Videos

Review PowerPoints

Unit Review Videos

FRQ Fridays

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Don't forget the DAILY
review on IG stories

Quizizz Game Codes

AP Biology Quizizz Review

UNIT 1: CHEMISTRY OF LIFE

1.1 STRUCTURE OF WATER AND HYDROGEN BONDING 7070 1203	1.2 ELEMENTS OF LIFE 8038 9908	1.3 INTRODUCTION TO BIOLOGICAL MACROMOLECULES 8347 9252
1.4 PROPERTIES OF BIOLOGICAL MACROMOLECULES 8811 3268	1.5 STRUCTURE AND FUNCTION OF BIOLOGICAL MACROMOLECULES 7844 0483	1.6 NUCLEIC ACIDS 7670 2727

Codes are updated when games max out at 1K plays. Check website for most up to date codes.



@APBIOPENGUINS

AP Biology Quizizz Review

UNIT 2: CELL STRUCTURE & FUNCTION

2.1 CELL STRUCTURE: SUBCELLULAR COMPONENTS 8186 7724	2.2 CELL STRUCTURE & FUNCTION 8698 4450	2.3 CELL SIZE 9408 0287
2.4 PLASMA MEMBRANES 9625 2482	2.5 MEMBRANE PERMEABILITY 7103 6435	2.6 MEMBRANE TRANSPORT 7359 4798
2.7 FACILITATED DIFFUSION 8295 9372	2.8 TONICITY & OSMOREGULATION 7459 6888	2.9 MECHANISMS OF TRANSPORT 7507 9598
2.10 CELL COMPARTMENTALIZATION 7575 5392		2.11 ORIGINS OF CELL COMPARTMENTALIZATION 7599 6747


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Quizizz Game Codes

AP Biology Quizizz Review

UNIT 3: CELLULAR ENERGETICS

3.1 ENZYME STRUCTURE 7652 7728	3.2 ENZYME CATALYSIS 7681 7354	3.3 ENVIRONMENTAL IMPACTS ON ENZYME FUNCTION 7715 5251
3.4 CELLULAR ENERGY 7768 6232	3.5 PHOTOSYNTHESIS 7807 2400	3.6 CELLULAR RESPIRATION 7836 2026
3.7 FITNESS 7850 6839		




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AP Biology Quizizz Review

UNIT 4: CELL COMMUNICATION & CELL CYCLE

4.1 CELL COMMUNICATION 7898 9549	4.2 INTRODUCTION TO SIGNAL TRANSDUCTION 7981 0156	4.3 SIGNAL TRANSDUCTION 8053 4221
4.4 CHANGES IN SIGNAL TRANSDUCTION PATHWAYS 8096 8660	4.5 FEEDBACK 8159 6183	4.6 CELL CYCLE 8217 5435
4.7 REGULATION OF CELL CYCLE 8280 2958		




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AP Biology Quizizz Review

UNIT 5: HEREDITY

5.1 MEIOSIS 8333 3939	5.2 MEIOSIS & GENETIC DIVERSITY 8372 0107	5.3 MENDELIAN GENETICS 8439 5901
5.4 NON-MENDELIAN GENETICS 8497 5153	5.5 ENVIRONMENTAL EFFECTS ON PHENOTYPE 8569 9218	5.6 CHROMOSOMAL INHERITANCE 8651 9825




@APBIOPENGUINS

Quizizz Game Codes

AP Biology Quizizz Review

UNIT 6: GENE EXPRESSION & REGULATION

6.1 DNA & RNA STRUCTURE 8719 5619	6.2 REPLICATION 8777 4871	6.3 TRANSCRIPTION & RNA PROCESSING 8835 4123
6.4 TRANSLATION 8893 3375	6.5 REGULATION OF GENE EXPRESSION 9004 3608	6.6 GENE EXPRESSION & CELL SPECIALIZATION 9071 9402
6.7 MUTATIONS 9129 8654	6.8 BIOTECHNOLOGY 9154 0009	




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AP Biology Quizizz Review

UNIT 7: NATURAL SELECTION

7.1 INTRODUCTION TO NATURAL SELECTION 9216 7532	7.2 NATURAL SELECTION 9265 0242	7.3 ARTIFICIAL SELECTION 9337 4307
7.4 POPULATION GENETICS 9409 8372	7.5 HARDY-WEINBERG EQUILIBRIUM 9433 9727	7.6 EVIDENCE OF EVOLUTION 9477 4166
7.7 COMMON ANCESTRY 9554 6502	7.8 CONTINUING EVOLUTION 9612 5754	7.9 PHYLOGENY 9636 7109
7.10 SPECIATION 9665 6735	7.11 EVOLUTION 9689 8090	7.12 VARIATION IN POPULATIONS 9723 5987
	7.13 ORIGIN OF LIFE ON EARTH 9771 8697	




@APBIO PENGUINS

AP Biology Quizizz Review

UNIT 8: ECOLOGY

8.1 RESPONSES TO THE ENVIRONMENT 9824 9678	8.2 ENERGY FLOW THROUGH ECOSYSTEMS 9907 0285	8.3 POPULATION ECOLOGY 9955 2995
8.4 EFFECT OF DENSITY ON POPULATIONS 6743 4195	8.5 COMMUNITY ECOLOGY 6849 6157	8.6 BIODIVERSITY 6902 7138
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