

SIRIUS

SAMPLER

*Use with Your
Students!*

BIOLOGY ZINGERS

Solving the Most-Missed STAAR® Test Items

2018
Streamlined
TEKS



- **Challenging test items engage students.**
- **Interactive instruction promotes student thinking.**
- **Guided practice builds test-taking confidence.**

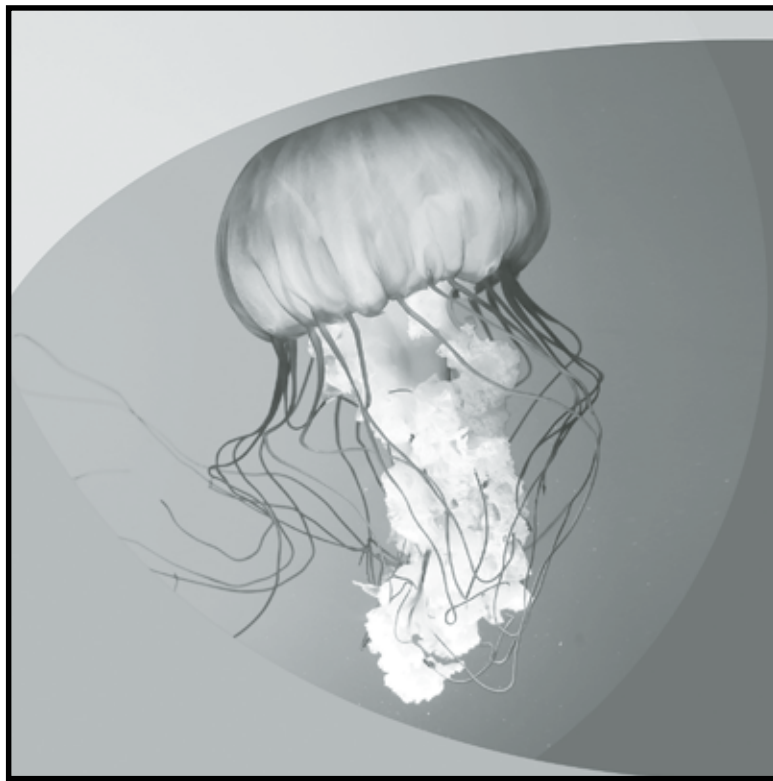
SAMPLER

*Use with Your
Students!*

SIRIUS

BIOLOGY ZINGERS

Solving the Most-Missed STAAR® Test Items



Copyright © 2018 by Sirius Education Solutions LLC. All rights reserved. No part of this work may be reproduced or distributed in any form or by any means, electronic, mechanical, photocopying, scanning, recording, or stored in a database or retrieval system, without the prior written permission of the publisher.

STAAR® is a registered trademark of the Texas Education Agency. The Texas Education Agency does not endorse this program or its content. Sirius Education Solutions LLC is not affiliated with the Texas Education Agency or the State of Texas.

STAAR® test questions copyright © by the Texas Education Agency. All rights reserved.

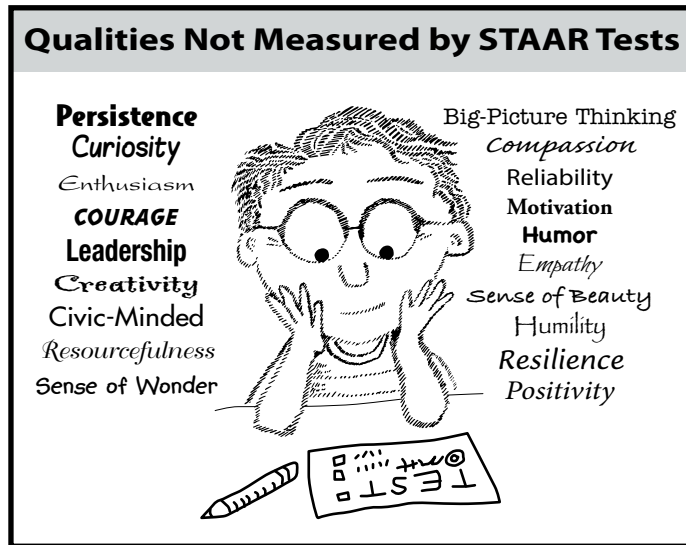
Printed in Texas.

ISBN: 978-1-943008-88-9

Possession of this publication in print format does not entitle users to convert this publication, or any portion of it, into electronic format. Thank you for respecting the copyright.

Dear Students,

There are many important qualities of character and intelligence that the STAAR tests are **not** designed to measure—as this cartoon shows.



What the STAAR Biology test does measure is your ability to solve specific kinds of math problems. The lessons in this workbook will teach you how to approach and successfully answer STAAR test questions. These skills are fun to learn, so you will probably enjoy the lessons.

Zingers— Solving the Most-Missed Test Items

Zingers challenge and support ALL students to THINK in ways that help them solve STAAR problems. Each Zinger presents one of the most difficult released STAAR test items and guides you to: read for understanding, plan and solve the problem, and reflect on the solution process. Finally, you practice with a similar test item to apply what you learned.

Practicing Smart Is the Secret to STAAR Success

There is a secret to success on the STAAR tests—practice, practice, and more practice. However, not all practice is the same . . . so you want to practice smart.

First, practice with test questions that are likely to appear on the actual STAAR test. That’s easy, since this workbook is full of them! Next, focus on your weaknesses—the types of questions that you most need to improve. Think of it like this: if your basketball shot needs improvement, you don’t practice dribbling. Instead, you practice shooting.

Focusing on your weaknesses also means analyzing each test question you get wrong. Why did you get it wrong? If your basketball shot is off, you identify what you are doing wrong (aiming too far left) and correct it with your next shot (aim further right).

When you practice, give each question your full attention. (Take a short break *after* you answer the question.) Your attention is a muscle that you can build by using it, one practice test question at a time. Do you believe unfocused, sloppy practice of your basketball shot will help you perform during a big game? Your attention is your greatest power. You develop it with practice.

Preparing for the STAAR test can actually be a fun challenge. And when you practice smart, you are building life skills at the same time you prepare for the STAAR test!

Your partners in STAAR success,
The Sirius Education Team

Table of Contents

Included in Sampler

Using Biology Zingers **iv**
 Strategies for Solving STAAR Problems **v**

Unlawful to photocopy or project without permission

Zingers—Solving the Most-Missed STAAR Test Items

	Percent Answering Incorrect	TEKS	Correlations to <i>Biology: Preparation and Practice</i>	Page	Date Due	Done
Zinger 1	43%	B.4B	Lesson 1	2		
Zinger 2	52%	B.4C	Lesson 2	5		
Zinger 3	47%	B.5A	Lesson 3	7		
Zinger 4	37%	B.6A	Lesson 4	10		
Zinger 5	47%	B.6E	Lesson 5	12		
Zinger 6	51%	B.6F	Lesson 6	15		
Zinger 7	53%	B.7A	Lesson 7	18		
Zinger 8	52%	B.7E	Lesson 8	21		
Zinger 9	50%	B.8B	Lesson 9	24		
Zinger 10	44%	B.9A	Lesson 10	28		
Zinger 11	52%	B.10A	Lesson 11	31		
Zinger 12	50%	B.10B	Lesson 12	33		
Zinger 13	46%	B.11B	Lesson 13	36		
Zinger 14	43%	B.12A	Lesson 14	39		
Zinger 15	33%	B.12C	Lesson 15	42		
Zinger 16	47%	B.12E	Lesson 16	45		

On Your Own—Mixed Readiness Practice 47

	TEKS	Correlations to <i>Biology: Preparation and Practice</i>
1	B.11B	Lesson 13
2	B.10A	Lesson 11
3	B.8B	Lesson 9
4	B.6A	Lesson 4
5	B.5A	Lesson 3
6	B.10B	Lesson 12
7	B.7E	Lesson 8
8	B.6E	Lesson 5

	TEKS	Correlations to <i>Biology: Preparation and Practice</i>
9	B.12E	Lesson 16
10	B.6F	Lesson 6
11	B.9A	Lesson 10
12	B.7A	Lesson 7
13	B.4C	Lesson 2
14	B.12A	Lesson 14
15	B.4B	Lesson 1
16	B.12C	Lesson 15

© Sirius Education Solutions

Using Biology Zingers

Zingers teach how to **read actively**, **think carefully**, and **solve** some of the most-missed STAAR test items.

1 READ and UNDERSTAND

Good problem solvers carefully read and reread the problem. Use the **interactive questions** to help you identify key facts such as:

- What **information is given**?
- What does the **problem ask for**?
- What **key concepts** do you need?

2 PLAN and SOLVE

Examine what two **students think** as they attempt to solve the problem.

The students often use **different methods** to solve the problem. They might make mistakes. Correcting these mistakes helps you **avoid** making **common mistakes** on the STAAR test.

3 LOOK BACK

What do you think? What did you learn from the other students' solution processes?

Reflecting on the problem will help you remember it when you see similar problems on the STAAR test.

4 GUIDED PRACTICE

Now it's your turn to **solve a similar problem**.

Use the **step-by-step** solution to avoid careless errors. With practice, you can solve the problems most students missed!

5 INDEPENDENT PRACTICE

Apply what you learned with more practice.

After this, you will feel **more confident** that you can succeed on the STAAR test. After all, you just solved one of the hardest problems!

TEKS with full text

Wow, 52% of the students tested missed this problem!

ZINGER 2 **B.4C** Compare the structures of viruses to cells, describe viral replication, and describe the role of viruses in causing diseases such as human immunodeficiency virus (HIV) and influenza.

READ and UNDERSTAND Read the problem carefully. **52% of students missed it!**

Viruses can be transmitted through air, water, food, insect bites, and direct skin contact. Once a virus gains entry to the body, it invades a host cell in order to —

F deactivate the host cell's defenses

G synthesize antibodies for defense

H metabolize host proteins and grow

J access cellular processes for replication

STAAR Biology 2017 #46

1. Viruses are | are not classified as living organisms.

2. Viruses cannot reproduce | grow without infecting a _____ cell.

3. A host cell will replicate a virus's antibodies | genetic material form new viruses.

4. A virus uses the host cell to make different forms | copies of _____.

PLAN and SOLVE Read what each student thinks.

Yama thinks...

A virus needs to grow so that it can infect more cells. To grow, the virus needs a resource.

Thus, a virus enters a host cell to break down its proteins. It uses the building blocks of the proteins to increase in size before moving into another cell and infecting it.

My choice is H.

Jose thinks...

A virus needs to replicate so that it can infect more cells. Viruses use the cellular machinery of the host cell to replicate the viral genetic material and make more viruses.

Finally, the viruses are released from the host cell.

My choice is J.

5. Yama correctly | incorrectly thinks that the virus must increase in size in order to infect more cells.

6. Jose correctly | incorrectly thinks that a host cell must replicate the viral genetic material before the virus can infect more cells.

LOOK BACK Answer each question.

7. Yama | Jose correctly explained why a virus enters a host cell. Draw a model that correctly represents the process the student described.

8. The correct answer choice is F | G | H | J .

GUIDED PRACTICE Read the problem carefully.

Bacteriophages, or phages, are viruses that infect bacterial cells. Phages systematically target and destroy host cells when they —

A metabolize host proteins to build new viruses

B activate host antibodies to kill the phage

C duplicate their own genetic material and new viruses are made

D reproduce their genetic material and new host cells are made

9. The host cell for a phage is a _____ cell.

10. When phages infect host cells, they use bacterial cells to replicate | metabolize their genetic material and build new viruses | bacteria that burst out of the host.

11. The correct answer choice is A | B | C | D .

INDEPENDENT PRACTICE Answer each question.

12. Choose all the characteristics that describe viruses and not cells. replicate | metabolize their genetic material and build new viruses | have either DNA or RNA | have organelles

13. A classmate tells you that viruses are living organisms. Is your classmate correct? Explain your answer.

6

Biology Zingers Solving the Most-Missed STAAR Test Items

Unlawful to photocopy or project without permission

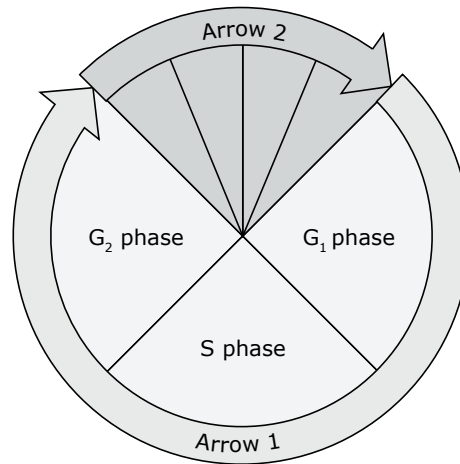
© Sirius Education Solutions

Complete the step-by-step solutions.

B.5A Describe the stages of the cell cycle, including deoxyribonucleic acid (DNA) replication and mitosis, and the importance of the cell cycle to the growth of organisms.

READ and UNDERSTAND Read the problem carefully. 47% of students missed it!

This model of the cell cycle includes two arrows that each represent a process in the cycle.



What do the two arrows represent?

STAAR Biology 2018 #46

- F** Arrow 1 represents prophase, and Arrow 2 represents interphase.
- G** Arrow 1 represents mitosis, and Arrow 2 represents meiosis.
- H** Arrow 1 represents interphase, and Arrow 2 represents mitosis.
- J** Arrow 1 represents meiosis, and Arrow 2 represents prophase.

1. The cell cycle represents the main **stages** | **divisions** that most eukaryotic cells go through during their lifetime.
2. **Interphase** | **Prophase** is the part of the cell cycle in which a cell grows, copies the DNA, and prepares for cell division.
3. **Interphase** | **Mitosis** is the part of the cell cycle that leads to two identical nuclei during the process of cell division.

PLAN and SOLVE Read what each student thinks.

Angel thinks. . .

The stem "pro-" means beforehand, and the prefix "inter-" means between. Therefore, prophase must occur before interphase. My choice is **F**.

Matthew thinks. . .

There are two main stages in the cell cycle, known as interphase and cell division. Interphase is longer than cell division. Arrow 1 is longer than Arrow 2. My choice is **H**.

4. Angel **correctly** | **incorrectly** identified prophase as the first stage of the cell cycle.
5. Matthew **correctly** | **incorrectly** states that interphase is longer than cell division.

LOOK BACK Answer each question.

6. Angel | Matthew finds the correct answer choice.

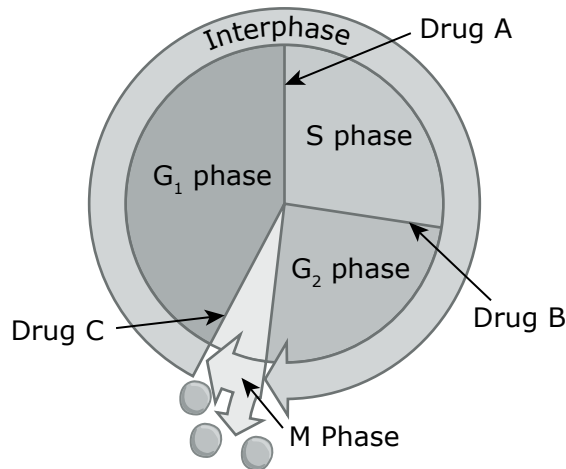
What mistake did the other student make? _____

7. Lani recalls that DNA synthesis (S) happens in interphase. Explain how she can use this fact to find the correct answer. _____

8. The correct answer choice is **F** | **G** | **H** | **J** .

GUIDED PRACTICE Read the problem carefully.

Cancer is caused by cells that have lost control of the cell cycle. Many cancer medications interfere with the cell cycle to stop tumor growth. The model below shows the stages of the cell cycle at which three drugs interact with cancer cells.



Which drug(s) will prevent the cell from entering the cell division phase, but still allow DNA to replicate?

- | | |
|-----------------|------------------------|
| A Drug A | C Drugs A and B |
| B Drug B | D Drugs B and C |

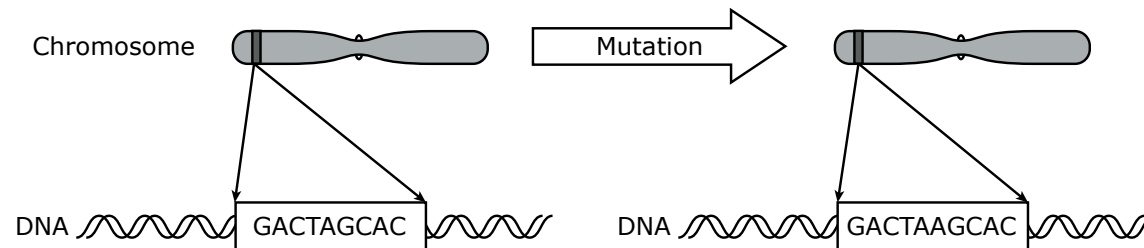
- 9. DNA replication occurs only during the G_1 | S | G_2 phase.
- 10. If the cell cycle starts at G_1 , then Drug A | B disrupts the cell cycle before DNA replicates.
- 11. If the cell cycle starts at G_1 , then Drug B | C also disrupts the cell cycle before DNA replicates.
- 12. The correct answer choice is A | B | C | D .

INDEPENDENT PRACTICE Answer each question.

- 13. Choose all the events that occur during interphase, and not during mitosis.
anaphase | chromosomes separate | DNA replication | G_1 phase | G_2 phase | organelle growth | M phase | metaphase | prophase | S phase
- 14. A new drug is developed that allows DNA replication, but prevents the chromosomes from separating. Which stage of the cell cycle, shown in the Guided Practice, will the drug affect? Explain.

READ and UNDERSTAND Read the problem carefully. 47% of students missed it!

Different types of mutations can occur in DNA. The diagram represents a type of mutation.



Which statement describes the mutation in the diagram?

- F** A silent mutation results in the insertion of a different amino acid.
- G** A substitution occurs with the adenine base.
- H** A deletion of a cytosine base occurs.
- J** A base is inserted into one strand of the DNA.

STAAR Biology 2017 #2

1. A mutation is a change in the sequence of **carbon atoms** | **bases** in a molecule of DNA.
2. Each DNA nucleotide contains one of four possible bases. These bases are adenine (A), thymine (T), cytosine (C), and _____.
3. A silent mutation has **a harmful effect** | **no effect** on an organism.
4. A substitution mutation replaces a base with **a different** | **the same** base.
5. A deletion mutation removes one or more **bases** | **amino acids** from the DNA strand.
6. A(n) **insertion** | **frameshift** mutation adds one or more bases to a DNA strand.

PLAN and SOLVE Read what each student thinks.

Alejandro thinks. . .

This is not a silent mutation because it will cause a change in the DNA reading frame and have a major effect. That means F is false.

I also know that an insertion mutation has one or more bases added into the DNA sequence. I see that the mutated DNA has an additional adenine base that is not in the original sequence.

My choice is J.

Dakota thinks. . .

A silent mutation is a mutation with little or no effect. An insertion occurs when one or more amino acids are added to the DNA sequence. Because the mutated sequence has only one adenine base added and that will add just one amino acid, it will have a small effect.

My choice is F.

7. Alejandro **correctly** | **incorrectly** thinks this mutation will change the reading frame.

8. Dakota **correctly** | **incorrectly** thinks that when one base is added, it adds an amino acid.

LOOK BACK Answer each question.

9. Alejandro | Dakota finds the correct answer choice.

What mistake does the other student make? _____

10. Alicia said she counted DNA bases to find the correct answer.

Explain how this can help. _____

11. The correct answer choice is **F** | **G** | **H** | **J** .

GUIDED PRACTICE Read the problem carefully.

The base sequences below represent an original mRNA strand (left) and a mutated mRNA strand (right).

Original		Mutation
U		U
C		C
G		G
A	→	A
C		U
U		U
G		G

Which type of DNA mutation produced the mutated strand of RNA shown?

- A** Deletion
- B** Insertion
- C** Substitution
- D** Inversion

12. A deletion mutation happens when a base is **added to** | **removed from** a sequence, so this mutation **is** | **is not** a deletion.
13. An insertion mutation happens when a base is **added to** | **removed from** a sequence, so this **is** | **is not** an insertion.
14. This **is** | **is not** a mutation in which a base is replaced by another base, which is called a(n) **inversion** | **substitution** .
15. The correct answer choice is **A** | **B** | **C** | **D** .

INDEPENDENT PRACTICE Answer each question.

16. The original base sequence of a section of mRNA was as follows:

UCGACUG

Write the type of mutation (Deletion, Insertion, Inversion, or Substitution) beside each mutated sequence below and circle where the mutation occurs:

UCGGACUG: _____

UCGAAUG: _____

UCACUG: _____

UCUCAGG: _____

To obtain a copy of the remaining answers
to this Sampler, email:

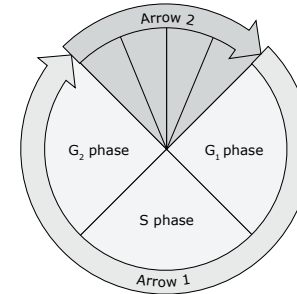
Teachers@SiriusEducationSolutions.com

ZINGER 3

B.5A Describe the stages of the cell cycle, including deoxyribonucleic acid (DNA) replication and mitosis, and the importance of the cell cycle to the growth of organisms.

READ and UNDERSTAND Read the problem carefully. 47% of students missed it!

This model of the cell cycle includes two arrows that each represent a process in the cycle.



What do the two arrows represent?

STAAR Biology 2018 #46

- | | |
|--|------------|
| F Arrow 1 represents prophase, and Arrow 2 represents interphase. | 21% |
| G Arrow 1 represents mitosis, and Arrow 2 represents meiosis. | 18% |
| H Arrow 1 represents interphase, and Arrow 2 represents mitosis. | 53% |
| J Arrow 1 represents meiosis, and Arrow 2 represents prophase. | 8% |

- The cell cycle represents the main **stages** | **divisions** that most eukaryotic cells go through during their lifetime.
- Interphase** | **Prophase** is the part of the cell cycle in which a cell grows, copies the DNA, and prepares for cell division.
- Interphase** | **Mitosis** is the part of the cell cycle that leads to two identical nuclei during the process of cell division.

PLAN and SOLVE Read what each student thinks.

Angel thinks . . .

The stem "pro-" means beforehand, and the prefix "inter-" means between. Therefore, prophase must occur before interphase.

My choice is F.

Matthew thinks . . .

There are two main stages in the cell cycle, known as interphase and cell division. Interphase is longer than cell division. Arrow 1 is longer than Arrow 2.

My choice is H.

BIOLOGY ZINGERS CONTENTS

Visit SiriusEducationSolutions.com for additional STAAR EOC resources.

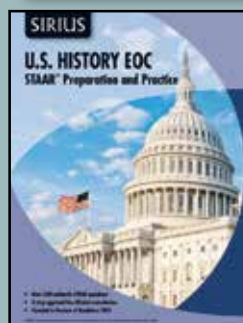
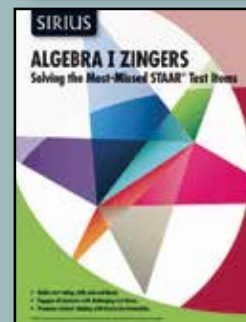
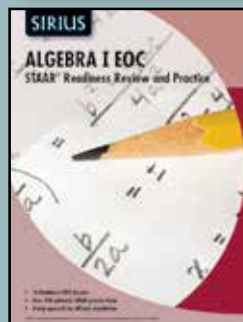
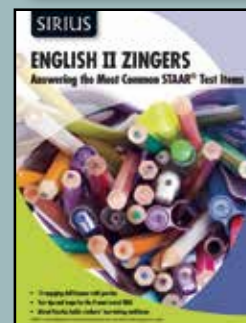
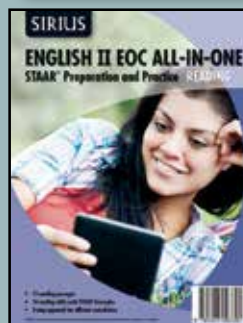
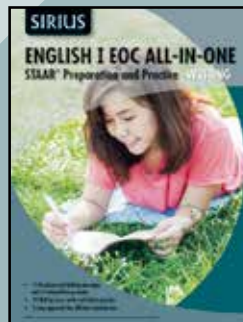
ZINGERS

Zinger 1	43% Incorrect
Zinger 2	52% Incorrect
Zinger 3	47% Incorrect
Zinger 4	37% Incorrect
Zinger 5	47% Incorrect
Zinger 6	51% Incorrect
Zinger 7	53% Incorrect
Zinger 8	52% Incorrect
Zinger 9	50% Incorrect
Zinger 10	44% Incorrect
Zinger 11	52% Incorrect
Zinger 12	50% Incorrect
Zinger 13	46% Incorrect
Zinger 14	43% Incorrect
Zinger 15	33% Incorrect
Zinger 16	47% Incorrect

ON YOUR OWN

16 Mixed Readiness TEKS
STAAR Practice Items

Use with your class for free!



STAAR Preparation and Practice

A 340-page workbook with instruction and practice in all tested Biology TEKS.

TEKS Instruction — Engaging Interactive Learning

Concise and **student-friendly** instruction reviews each Readiness TEKS. Students actively participate in learning with **interactive** and **scaffolded** Your Turn questions.

Lesson
15

Energy Flow Through Ecosystems

B.12C Analyze the flow of matter and energy through trophic levels using various models, including food chains, food webs, and ecological pyramids.

Full TEKS

Overview In this lesson, you will learn about how matter and energy flow into and between the living things in an ecosystem.

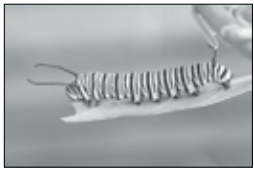
15.1 Living Things Use Matter and Energy

Matter and energy flow into and between the living things in an ecosystem. Living things differ in how they get matter and energy.

Producers and Consumers

Living things are either producers or consumers. A **producer**, like the plant below, is an **autotroph** that produces biomolecules—chemical energy in the form of food—from energy and inorganic molecules found in its environment. The plant uses the sun's energy to make food. The sun provides energy for most life on Earth. A **consumer**, like the caterpillar shown, is a **heterotroph** that obtains energy by feeding on other organisms or organic matter. The relationship between how organisms obtain energy and transfer energy enables life to survive as we know it.

Vocabulary
Producers are autotrophs, while consumers are heterotrophs. The prefixes *auto-* means "self" and *hetero-* means "different." The suffix *-troph* means "obtaining food."



Photosynthesis and Cellular Respiration

The cycling of matter and energy between producers and consumers occurs through the biochemical processes of **photosynthesis** and **cellular respiration**. Most producers undergo photosynthesis, while both producers and consumers undergo aerobic cellular respiration. As shown, the reactants of one process are the products of another process. These two biochemical processes provide the energy needed to support all life.

Lesson 15 Energy Flow Through Ecosystems **207**

Key terms are boldface and highlighted.

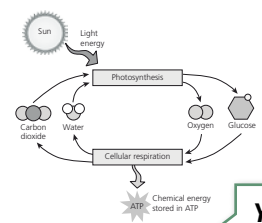
Energy Flow for Living Organism

Reactants: $6CO_2 + 6H_2O + \text{light energy} \rightarrow C_6H_{12}O_6 + 6O_2$

Products:


Photosynthesis: $6CO_2 + 6H_2O + \text{light energy} \rightarrow C_6H_{12}O_6 + 6O_2$

Cellular Respiration: $C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O + \text{ATP energy}$



Your Turn

1. Look at the drawing of producers and consumers. Circle the producers and place an X on the consumers.



Your Turn interactive questions check your understanding.

15.2 Use Models to Show Energy Flow

The movement of matter and energy through ecosystems requires an ongoing input of energy that is, in most cases, sunlight. Matter and energy from the environment enter through the producers in an ecosystem. Then, through feeding, the matter and energy move to the consumers. Ecologists use models to show the flow of matter and energy through organisms. These models include food chains, pyramids, and food webs.

208 Biology EOC • Unit 5 Interdependence Within Environmental Systems

STAAR Practice — Abundant and Systematic Practice

Each lesson includes **authentic STAAR practice** with **test-taking tips**.

15

STAAR Practice

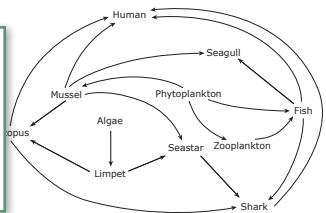
B.12C Analyze the flow of matter and energy through trophic levels using various models, including food chains, food webs, and ecological pyramids.

Read each question carefully and choose the best answer.

1. Which food chain correctly illustrates the direction in which energy flows through an ecosystem? (B.12C, B.3A)

A Sunlight → scavengers → decomposers → producers → herbivores
 B Sunlight → producers → herbivores → omnivores → carnivores
 C Sunlight → producers → decomposers → herbivores → carnivores
 D Sunlight → herbivores → producers → carnivores → omnivores

2. Part of a marine food web is shown in the diagram. (B.12C, B.2G)



Which organisms are producers in this ecosystem? (B.12C, B.2G)

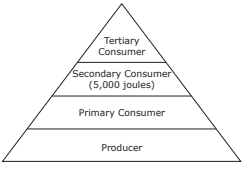
F Zooplankton and phytoplankton
 G Mussels and limpets
 H Algae and limpets
 J Phytoplankton and algae

When a test question has a complex diagram, such as a food web, it is often best to locate the answer options in the diagram first. Then, eliminate options that do not apply to the question.

214 Biology EOC • Unit 5 Interdependence Within Environmental Systems

Questions **match** the STAAR tests in content and format.

3. The energy pyramid below shows the energy available to secondary consumers. Assume that only 10% of matter and energy transfers from one trophic level to the next. (B.12C, B.2G)



Based on the energy flow between trophic levels in an energy pyramid, how much energy would be expected to be found at the producer level of this pyramid? (B.12C, B.2G)

A 500 joules
 B 5,000 joules
 C 50,000 joules
 D 500,000 joules

Before you read the answer choices, think about what you know about the question. Then look for the answer. This may prevent you from being distracted by other possible choices.

4. The table below shows a partial list of organisms in a Texas desert ecosystem.

Trophic Level	Organisms
Producer	Saguaro cactus, brittlebush, fluffgrass, prickly pear cactus
Primary Consumer	Red harvester ants, grasshopper, woodrat, antelope squirrel, Gila woodpecker
Secondary Consumer	Maned, grasshopper mouse, collared lizard, Gila woodpecker, elf owl
Tertiary Consumer	Diamondback rattlesnake, red-tailed hawk, elf owl

Which correctly identifies an organism that is part of the trophic level with biomass and energy? (B.12C, B.2G)

F Elf owl
 G Saguaro cactus
 H Gila woodpecker
 J Grasshopper mouse

Test-Taking Tips

50% of items include a stimuli just like released STAAR tests.

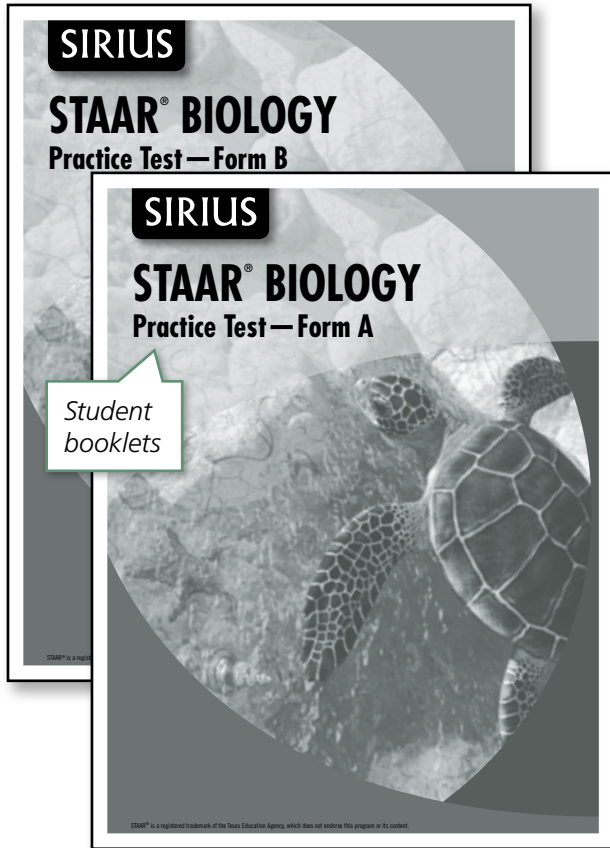
Lesson 15 Energy Flow Through Ecosystems **215**

STAAR BIOLOGY

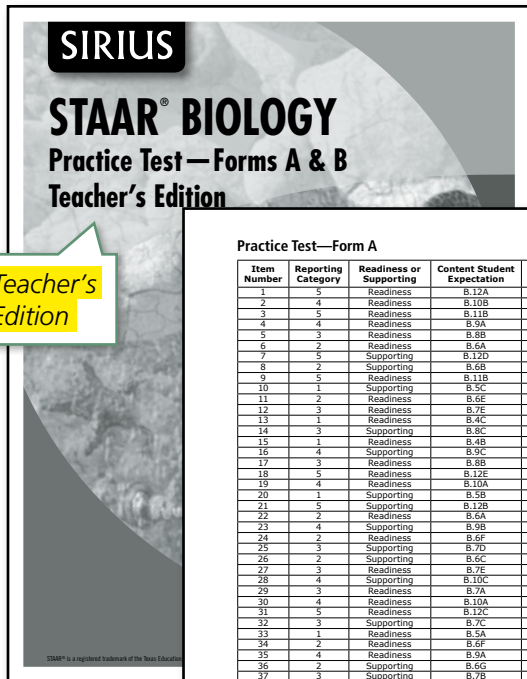
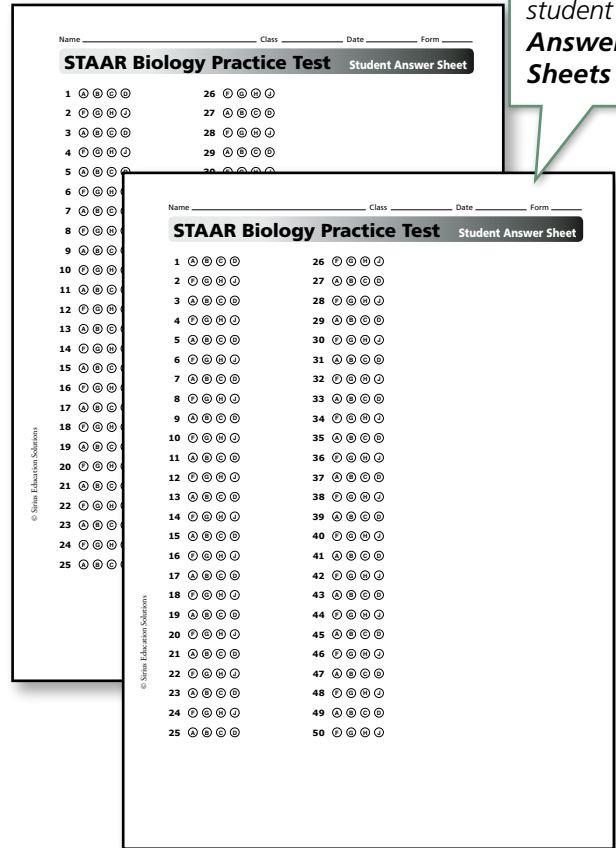
STAAR Practice Tests Forms A & B

Two distinct secure form tests that closely match the released STAAR test items and blueprint.

Includes student Answer Sheets



Student booklets



Teacher's Edition

Table of Contents

Form A
 Answer Key.....1
 Solutions.....2

Form B
 Answer Key.....6
 Solutions.....7

Student Answer Sheet—Blackline Master.....13

Practice Test – Form A

Solutions

1 B is correct because it describes competition for mates, which are an important resource for the survival of a population. A describes cooperation, and C and D do not involve interactions between the species.

2 H is correct because it is an interaction among shoots, roots, and reproductive structures. F and G do not refer to reproductive structures, and J does not refer to the root system.

3 D is correct because all populations would decrease in size because of the fire and then some would begin to increase afterward.

4 F is correct because a function of both fatty acids and carbohydrates is to be used in the pathways that make ATP, a cell's direct energy source. Neither is encoded in DNA nor made of amino acids. J is incorrect because it is a structural similarity.

5 D is correct because the plant has leaves that are not needles or scales, A2 in the key, and the leaves are simple and opposite, D1 and E1 in the key, which leads to dogwood.

6 F is correct because a five-carbon sugar is the part of a nucleotide that has both a phosphate group and a nitrogen base attached to it.

7 B In the 1980s the zebra mussel was brought from the Baltic Sea to the Great Lakes, including Lake Erie, by ships. Zebra mussels, shown in the photograph, filter water through their gills and extract algae from the water to feed on. Soon after their introduction to Lake Erie, the zebra mussel population exploded and the water, once greenish and thick with algae, became clear and blue.

8 J is correct because the DNA from one species, such as humans, is interpreted in the same way by protein synthesis in almost all other species due to the fact that the 64 codons of the genetic code stand for the same amino acids.

10 B is correct because plants need nutrients to grow and reproduce, and added nutrients would immediately cause their populations to increase in size. A is the opposite of what happens to a pond during succession, and C and D would not be immediate responses to additional nutrients in a pond.

11 G is correct because the genes that cause the death of abnormal cells are part of a normally functioning cell cycle. Abnormal cells that continue to divide in an uncontrolled manner cause tumors and other forms of cancer to develop.

12 D is correct because the original base-sequence would place Trp and Met at the end of a polypeptide chain, but the altered base-sequence would also add Ser and other amino acids after it instead of stopping the polypeptide chain. A and B would produce the same sequence of amino acids as the original, and C would change one amino acid but still stop the chain.

13 H is correct because each population would be acted upon by natural selection in a somewhat different way, which would increase diversity. F would lead to the evolution of a new species; G would lead to no change in diversity, and J would increase diversity but does not involve natural selection.

14 C is correct because viruses are not alive and, thus, cannot be killed by antibiotics. A would be true for both cells and viruses and would not distinguish them. Both B and D would indicate the pathogen consists of cells, not viruses.

15 G is correct because only plants and animals have cell differentiation and specialization, while other kingdoms have eukaryotic cells and include species that have cell walls with cellulose and photosynthetic cells with chlorophyll.

16 B is correct because transcription occurs first, followed by translation and then by the processing of polypeptides and the transport of proteins.

Full solutions

Item Number	Reporting Category	Readiness or Supporting	Content Student Expectation	Process Student Expectation	Correct Answer
1	5	Readiness	B.12A		B
2	4	Readiness	B.10B		H
3	5	Readiness	B.11B		D
4	4	Readiness	B.9A		F
5	3	Readiness	B.8B	B.2H	D
6	2	Readiness	B.6A		F
7	5	Supporting	B.12D	B.2H	A
8	2	Supporting	B.6B		J
9	5	Readiness	B.11B		B
10	1	Supporting	B.5C		G
11	2	Readiness	B.6E	B.2H	D
12	3	Readiness	B.7E	B.3B	H
13	1	Readiness	B.4C	B.3A	C
14	3	Supporting	B.8C	B.2G	G
15	1	Readiness	B.4B		B
16	4	Supporting	B.9C		F
17	3	Readiness	B.8B	B.2H	C
18	5	Readiness	B.12E		C
19	4	Readiness	B.10A		A
20	1	Supporting	B.5B	B.2G	F
21	5	Supporting	B.10B	B.2H	D
22	2	Readiness	B.6A		G
23	4	Supporting	B.9B	B.2G	D
24	2	Readiness	B.6E	B.2G	J
25	3	Supporting	B.7D	B.3A	D
26	2	Supporting	B.6C		F
27	3	Readiness	B.7E	B.3B	F
28	4	Supporting	B.10C	B.2H	G
29	3	Readiness	B.12A	B.3A	D
30	4	Readiness	B.10A		H
31	5	Readiness	B.12C	B.2G	A
32	3	Supporting	B.7C	B.3A	G
33	1	Readiness	B.5A		J
34	2	Readiness	B.6F	B.2G	J
35	4	Readiness	B.9A	B.2H	A
36	2	Supporting	B.6C	B.2H	F
37	3	Supporting	B.7B	B.3A	H
38	5	Readiness	B.12A	B.3A	B
39	4	Readiness	B.10B		C
40	5	Supporting	B.11A		F
41	1	Readiness	B.4B	B.2H	C
42	2	Readiness	B.6E		G
43	5	Readiness	B.12E		D
44	1	Readiness	B.4B		G
45	3	Readiness	B.7A	B.3A	D
46	1	Readiness	B.5A		C
47	2	Supporting	B.6D		G
48	1	Supporting	B.4A		C
49	4	Supporting	B.9C	B.3A	C
50	1	Readiness	B.4C		J

Practice Tests are sold in 10-packs: 10 Form A & 10 Form B student booklets with bubble sheets, and 1 Teacher's Edition