

STAAR Spring 2026 Biology Answer Key

Item Position	Item Type	TEKS Assessed	Maximum Number of Points	Correct Answer(s)	Reporting Category	Readiness or Supporting
1	Multiple Choice	B.9(A)	1	C	3	Supporting
2	Multiple Choice	B.12(A)	1	A	1	Supporting
3	Multiple Choice	B.10(D)	1	C	3	Supporting
4	Multiple Choice	B.8(B)	1	C	2	Readiness
5	Short Constructed Response	B.7(A)	2	See Appendix 1.1	2	Supporting
6	Multiple Choice	B.9(B)	1	D	3	Readiness
7	Multiple Choice	B.11(B)	1	B	1	Readiness
8	Hot Spot	B.5(B)	1	See Appendix 1.2	1	Readiness
9	Multiple Choice	B.7(C)	1	A	2	Readiness
10	Multipart	B.10(B)	2	B, A	3	Readiness
11	Multiple Choice	B.6(C)	1	B	1	Readiness
12	Drag and Drop	B.13(C)	2	See Appendix 1.3	4	Supporting
13	Inline Choice	B.12(B)	2	See Appendix 1.4	1	Readiness

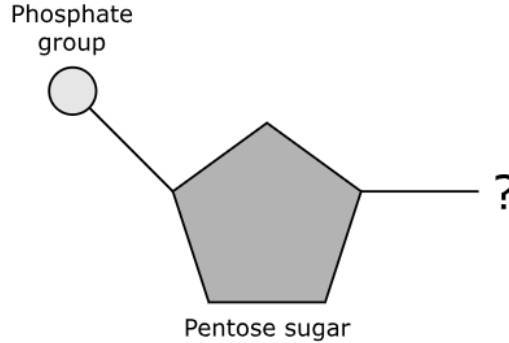
14	Inline Choice	B.8(A)	2	See Appendix 1.5	2	Supporting
15	Multiple Choice	B.6(B)	1	A	1	Supporting
16	Multiple Choice	B.13(D)	1	C	4	Readiness
17	Multiple Choice	B.10(C)	1	A	3	Readiness
18	Multiple Choice	B.6(A)	1	B	1	Supporting
19	Short Constructed Response	B.13(B)	2	See Appendix 1.6	4	Supporting
20	Multiple Choice	B.8(B)	1	D	2	Readiness
21	Multiple Choice	B.9(B)	1	B	3	Readiness
22	Drag and Drop	B.6(C)	1	See Appendix 1.7	1	Readiness
23	Multiple Choice	B.10(B)	1	A	3	Readiness
24	Multiple Choice	B.11(B)	1	D	1	Readiness
25	Multiple Choice	B.7(C)	1	B	2	Readiness
26	Multiple Choice	B.5(B)	1	D	1	Readiness
27	Multiple Choice	B.10(A)	1	D	3	Supporting
28	Multipart	B.11(A)	2	C, A	1	Supporting
29	Multiple Choice	B.10(C)	1	C	3	Readiness
30	Multiple Choice	B.13(D)	1	B	4	Readiness
31	Drag and Drop	B.13(A)	1	See Appendix 1.8	4	Supporting

32	Multiple Choice	B.7(B)	1	C	2	Supporting
33	Multiple Choice	B.12(B)	1	B	1	Readiness

STAAR Spring 2026 Biology Appendix

1.1

A DNA nucleotide has three components. This model of a nucleotide is missing one of these components.



Identify the missing nucleotide component, **AND** explain the significance of this component in determining the traits of an organism.

Read the information carefully. Then enter your response in the box provided.

The missing nucleotide component is a nitrogenous base. The sequence of the nitrogenous bases in a DNA molecule (adenine, cytosine, guanine, thymine) determines the traits of an organism.

1.2

A student views four cells under a light microscope and records some observations in the table shown.

Which observation in the table can be used to identify one of the cells as a prokaryote?

Select **ONE** correct answer.

Specimen	Flagellum Present?	Nucleus Present?	Chloroplast Present?	Cell Wall Present?
Cell 1	Yes	Yes	No	No
Cell 2	No	Yes	No	No
Cell 3	Yes	No	No	Yes
Cell 4	No	Yes	Yes	Yes

The student selects the 'No' under 'Nucleus Present?'.

1.3

Based on Figure 1 and Table 1, explain how a fire affects soil and the nitrogen cycle.

Move the correct answer to each box. Each answer may be used more than once. Not all answers will be used. Not all answers can be moved to all boxes.

- ammonium
- nitrate
- nitrite
- an increase
- a decrease

Because numbers of nitrifying bacteria decrease after a fire, there is a buildup of ammonium ions that cannot be converted into nitrite ions and then into nitrate ions. The results of this process would likely be a decrease in levels of nitrogen in the form that plants can use and a decrease in ecosystem stability.

1.4

Based on Figure 1, explain how plant roots support optimal levels of nutrients for the entire plant.

Choose the correct answer from each drop-down box to complete the sentences.

The roots have high , which enables the of nitrates transported by to other parts of the plant. One effect of fungi is in structural components that contribute to proper root functioning.

1.5

Based on the information in the passage, explain how reproductive processes in soil microbial communities affect whether the population sizes after a fire return to the population sizes before the fire.

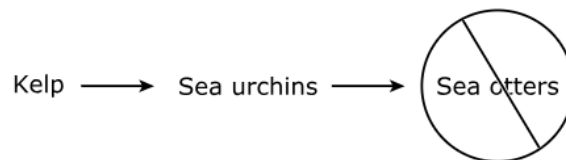
Choose the correct answer from each drop-down box to complete the sentences.

The processes of crossing-over and independent assortment occur during in . These processes genetic diversity by producing gametes that allow some of the individuals in the population to survive following an environmental change such as a fire.

1.6

The sea otter is a keystone species in the eastern Pacific Ocean, responsible for maintaining ecosystem health. In California's Monterey Bay, healthy sea otter populations are linked to lush, productive kelp forests. Sea urchins are the primary prey of sea otters, and the urchins feed on the kelp.

A food chain with the removal of sea otters in Monterey Bay is shown.



Explain how the removal of sea otters would **MOST LIKELY** affect the stability of the Monterey Bay ecosystem based on how sea urchins would affect kelp forests.

Think about the information carefully. Then enter your response in the box provided.

The ecosystem would become less stable because sea urchins would consume much more of the kelp forests.

1.7

The model shows some of the events that take place when a cell reaches the G_2 checkpoint in the cell cycle. How should the model be completed to show the **MOST LIKELY** outcome for this cell?

Move the correct answer to the box. Not all answers will be used.

Apoptosis takes place.

Cell returns to G_1 checkpoint.

Cell turns into a tumor.

New DNA is synthesized.

DNA damage is found. → DNA repair is attempted. → DNA repair fails. →

1.8

Endophytes are microorganisms that live between the cells of plant tissues. The data table shows characteristics of rice plants in the presence and absence of different species of endophytes.

Endophyte	Plant Shoot Height (cm)	Grain Yield (tons of rice/hectare)
Bacteria Species W	47.5	2.89
Mixture of Bacteria Species W, X, Y, Z	60.2	3.07
None	42.1	2.80

Source: Govindarajan, M., et al., *Microbial Ecology*, 2008

What claims can be made about endophytes based on the data in the table?

Move the correct answer to each box. Not all answers can be moved to all boxes.

enhances

impairs

symbiotic relationship

parasitic relationship

The presence of certain microorganisms **enhances** the health of rice plants. The difference in plant characteristics in the presence and absence of bacterial endophytes supports a claim that the rice plants and microorganisms are part of a **symbiotic relationship**.