STAAR Practice Test 2024 Grade 8 Science
Answer Key

Item Position	Item Type	TEKS Assessed	Maximum Number of Points	Correct Answer(s)	Reporting Category	Readiness or Supporting
1	Multiple Choice	8.1.8.6.E	1	D	1	Readiness
2	Multiple Choice	8.4.6.13.A	1	B	4	Supporting
3	Multi-Part	8.1.7.6.B	2	B, D	1	Readiness
4	Multiple Choice	8.4.8.12.B	1	B	4	Supporting
5	Multiple Choice	8.1.8.6.E	1	B	1	Readiness
6	Multiple Choice	8.3.8.10.C	1	A	3	Supporting
7	Multiple Choice	8.4.8.13.A	1	B	4	Supporting
8	Table Match	8.4.8.13.A	2	See Appendix 1.1	4	Supporting
9	Multiple Choice	8.4.8.13.C	1	B	4	Supporting
10	Multiple Choice	8.2.7.7.C	1	C	2	Supporting
11	Multiple Choice	8.3.6.9.A	1	D	3	Readiness
12	Multiple Choice	8.1.8.6.E	1	B	1	Readiness
13	Multiple Choice	8.1.7.6.B	1	B	1	Readiness
14	Hotspot	8.4.6.12.A	2	See Appendix 1.2	4	Readiness
15	Multiple Choice	8.3.8.10.A	1	A	3	Supporting
16	Multiple Choice	8.1.8.6.E	1	B	1	Readiness
17	Multiple Choice	8.1.7.6.C	1	C	1	Supporting
18	Short Constructed Response	8.2.6.7.B	2	See Appendix 1.3	2	Readiness
19	Multiple Choice	8.3.7.11.B	1	B	3	Supporting
20	Multi-Part	8.3.8.9.A	2	B, A	3	Readiness
21	Multiple Choice	8.2.6.8.B	1	B	2	Supporting
22	Multiple Choice	8.3.7.10.B	1	A	3	Readiness
23	Multiple Choice	8.3.7.10.B	1	C	3	Readiness
24	Multiple Choice	8.3.7.10.B	1	C	3	Readiness
25	Multiple Choice	8.3.8.10.A	1	A	3	Supporting

26	Multiple Choice	8.2.8.7.A	1	C	2	Readiness
27	Short Constructed Response	8.4.8.13.C	2	See Appendix 1.4	4	Supporting
28	Inline Choice	8.2.8.7.B	2	See Appendix 1.5	2	Readiness
29	Multiple Choice	8.4.7.13.C	1	A	4	Supporting
30	Multiple Choice	8.2.7.7.A	1	B	2	Supporting
31	Multiple Choice	8.2.8.7.B	1	B	2	Readiness
32	Multiple Choice	8.4.8.13.A	1	C	4	Supporting
33	Multiple Choice	8.2.6.8.B	1	B	2	Supporting
34	Multiple Choice	8.3.8.10.A	1	D	3	Supporting
35	Multiple Choice	8.1.6.6.C	1	D	1	Supporting
36	Multiple Choice	8.4.7.13.A	1	A	4	Supporting
37	Multiple Choice	8.3.7.10.A	1	C	3	Supporting
38	Multiple Choice	8.1.7.6.B	1	D	1	Readiness

Practice Test 2025 Grade 8 Science
Appendix

1.1

Identify the function performed by each cell part.

Select the correct answer in each row.

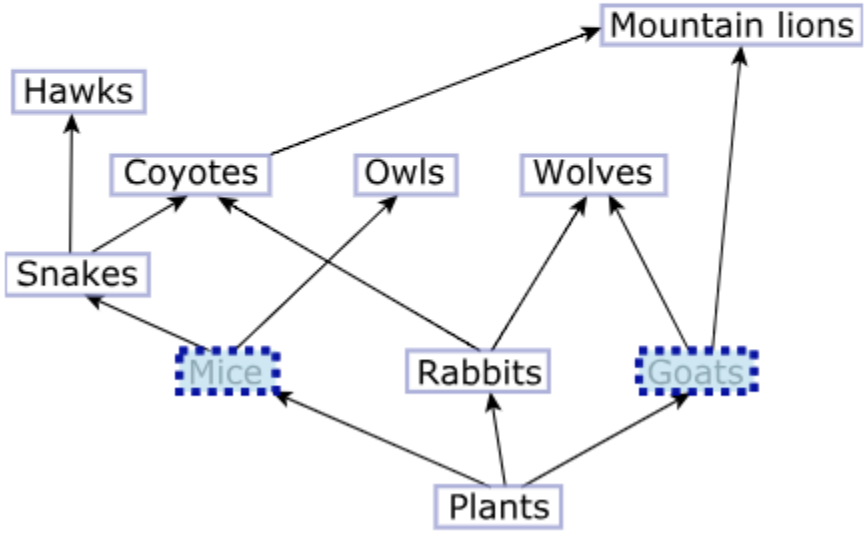
Cell Part	Enables Cellular Respiration	Enables Photosynthesis	Enables Passage of Materials into and out of the Cell
Cell membrane	☐	☐	☑
Mitochondria	☑	☐	☐
Chloroplast	☐	☑	☐

1.2

A partial food web is shown.

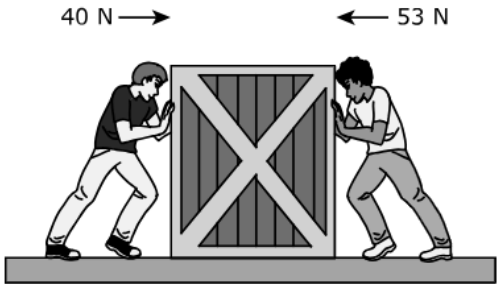
Which two organisms compete with rabbits for biotic resources?

Select **TWO** correct answers.



1.3

Two students push on the opposite sides of a crate, with the force applied by each student in newtons (N), as shown in the diagram.



Assuming the crate is on a frictionless surface, describe the effect of these forces on the crate.

- Will the crate move toward the left, toward the right, or not at all?
- What is the direction and the magnitude of the net force on the crate?

Review the diagram carefully. Then enter your response in the box provided.

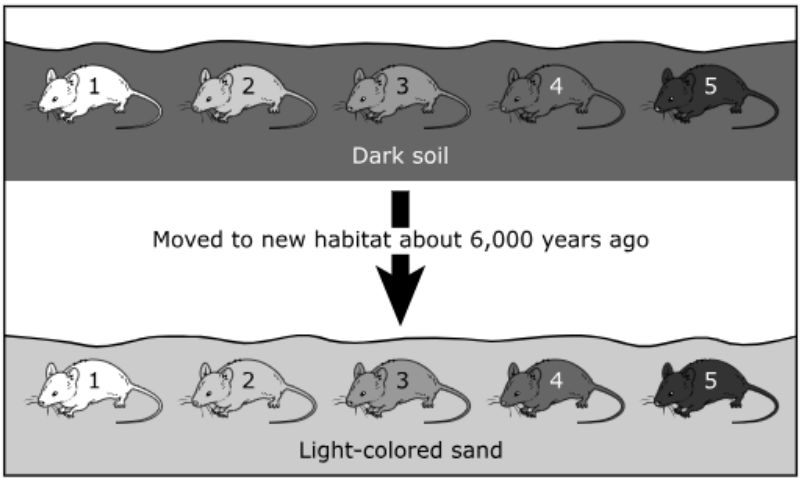
The student describes both of the following:

- The crate will move to the left.
- The net force on the crate is 13 N left.

1.4

The mice in a certain population have fur colors that range from very light to very dark. About 6,000 years ago, the population migrated from an area with dark volcanic soil to a nearby area with light-colored sand. In both areas, the mice's main predators were hawks that hunt by spying prey from above. The diagram shows how the shades of mouse fur in the population appear against both the dark soil in their old habitat and the light-colored sand in their new habitat.

Shades of Mouse Fur in Two Different Habitats



Which shade of mouse fur was **LIKELY** most frequent when the population lived in the dark-soil habitat?

AND

After living in the light-colored-sand habitat for 6,000 years, how has the frequency of fur shades in the mouse population **MOST LIKELY** changed?

Be sure to support your answer with evidence from the information provided and with information about natural selection.

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

Most of the mice living on darker soil 6,000 years ago would have been like mouse shade-4.
AND
After living in the light-colored-sand habitat for 6,000 years the frequency shifted to Shade-2 because by natural selection, fewer light-shaded mice (around 2 on the scale) will be lost to predation because they blend in better with the lighter sand making it difficult for predators to see. [OR By natural selection, more dark-colored mice (around 4 on the scale) will be lost to predation because they are easier to see by the predators.]

1.5

A car moving at a constant speed suddenly accelerates in order to merge onto a freeway. How can Newton's laws of motion be used to describe the motion of the car?

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

Based on Newton's third law of motion, the road and the car's tires exert equal and opposite forces on each other. Based on Newton's second law, the rate of the car's acceleration can be determined by dividing its net force by its mass.