



State of Texas Assessments of Academic Readiness

Middle School Science

Administered in Grade 8

Short Constructed-Response Scoring Guide

Spring 2026

General Information

Beginning with the 2022–2023 school year, science assessments include short constructed-response questions at every assessed grade level. Students are asked to provide a short response to a question. Responses are scored using a prompt-specific, two-point rubric.

This State of Texas Assessments of Academic Readiness (STAAR®) constructed-response scoring guide provides student exemplars at all score points for constructed-response questions from the STAAR middle school science operational test. The questions are presented as they appeared on the test, and responses were scored based on the two-point rubrics that were developed with the input of Texas educators. A response earns a specific score point based on the completeness of the response provided as measured against the rubric.

The responses in this guide are actual student responses submitted online during the testing window. To protect the privacy of individual students, all names and other references of a personal nature have been altered or removed. Otherwise, the responses appear as the students wrote them and have not been modified.

Middle School Science Short Constructed Response

Prompt

Two forces are acting on a 10-kilogram (kg) cart:

- Force 1 = 10 newtons (N) to the east
- Force 2 = 8 newtons (N) to the west

What is the net force (N) on the cart, **AND** what is the acceleration (m/s^2) of the cart?

Read the question carefully. Then enter your answers in the box provided. Be sure to include appropriate units.

Item-Specific Rubric

Score: 2

- Net force is 2 N, east
- Acceleration is 0.2 m/s^2

Score: 1

Net force is 2 N, east

OR

Acceleration is 0.2 m/s^2

Score: 0

The response is incorrect or irrelevant.

Sample Student Responses

Score Point 0

Response 1

The acceleration of the cart is 2 (N) to the east, and the netforce is 190 (kg)

The response provides little to no understanding. The net force and direction are correctly calculated; however, the net force is labeled as acceleration ("acceleration of the cart is 2 (N) to the east"). An incorrect calculation is included ("190 (kg)") with incorrect units.

Response 2

The acceleration of the cart is 2m/s^2 , and the net force on the cart is 20 N.

The response is incorrect and provides no understanding. The net force given has an incorrect value and is missing direction ("20 N"), and the acceleration given has the incorrect value (" 2m/s^2 ").

Response 3

.2m/s
2net force

The response provides little to no understanding. For the net force, the correct calculation is provided, but it is missing units and direction ("2net force"). For the acceleration, the incorrect units are provided (".2m/s").

Response 4

The net force is 2 because if you subtrace force 1 with force 2 you will get 2 and the cart would move east because force 1 had a greater amount of net force.

The response provides little to no understanding. The provided net force is missing units ("The net force is 2 . . . and the cart would move east"), and no acceleration has been provided.

Score Point 1

Response 1

2 Newtons, 0.2 m/s²

The student answers half of the question correctly. The response provides partial understanding:

- The acceleration is correctly calculated and labeled ("0.2 m/s²").
- The net force is missing a direction ("2 Newtons").

Response 2

The net force is 2 newton east, and acceleration is 0.2

The student answers half of the question correctly. The response provides partial understanding:

- The net force is correctly calculated and labeled ("net force is 2 newton east").
- The acceleration is missing units ("0.2").

Response 3

There is a force of 2N to the east and there is a acceralation of 2m/s

The student answers half of the question correctly. The response provides partial understanding:

- The net force is correctly calculated and labeled ("2N to the east").
- The acceleration has the incorrect value and units ("2m/s").

Response 4

It is moving 2N east.

The student answers half of the question correctly. The response provides partial understanding:

- The net force is correctly calculated and labeled (“2N east”).
- The acceleration is omitted.

Score Point 2

Response 1

If a force of 10 newtons is going to the east and a force of 8 newtons if going to the west the net force of this would be 2 newtons to the east. To calculate the acceleration it would be force over mass. So you divide the force which is 2 by the mass which is 10. 2 divided by 10 is (0.2). In conclusion, the acceleration would be (0.2m/s²).

The response provides complete and correct understanding:

- The net force is correctly calculated and labeled ("2 newtons to the east").
- The acceleration is correctly calculated and labeled ("0.2m/s²").

Response 2

The net force of the cart is 2 Newtons to the east. The acceleration of the cart is 0.2 m/s²

The response provides complete and correct understanding:

- The net force is correctly calculated and labeled ("2 Newtons to the east").
- The acceleration is correctly calculated and labeled ("0.2 m/s²").

Response 3

The net force acting on the car is two newtons to the east, and the acceleration is .2 meters per second squared.

The response provides complete and correct understanding:

- The net force is correctly calculated and labeled ("two newtons to the east").
- The acceleration is correctly calculated and labeled (".2 meters per second squared").

Response 4

The net force of the cart is 2N east. The acceleration of the cart is $1/5 \text{ m/s}^2$. I know this because acceleration equals force divided by mass; and if you plug in the numbers, the equation is $a=2\text{N}/10\text{kg}$. Which equals $1/5 \text{ m/s}^2$.

The response provides complete and correct understanding:

- The net force is correctly calculated and labeled ("2N east").
- The acceleration is correctly calculated and labeled (" $1/5 \text{ m/s}^2$ ").

Middle School Science Short Constructed Response

Prompt

An area near a beach is mostly covered with tan-colored sand and has some scattered green plants. The table shows data collected on four female mice that lived in the area.

	Mouse 1	Mouse 2	Mouse 3	Mouse 4
Fur Color	Black	Tan	Tan and black	White
Age at Time of Death (months)	2	8	4	2
Number of Offspring in First Litter	0	11	3	0
Average Running Speed (m/min)	8	6	7	5

Based on the data provided, mice that have which fur color are most fit for reproductive success, **AND** why are they the most fit?

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

Item-Specific Rubric

Score: 2

The response provides complete and correct understanding:

- The most fit color mouse is the tan mouse.

AND

- The mouse can blend into its surroundings.

Score: 1

The student answers half of the question correctly. The response provides partial understanding:

- The most fit color mouse is the tan mouse.

OR

- The mouse can blend into its surroundings.

Score: 0

The response is incorrect or irrelevant. The response provides little to no understanding.

Sample Student Responses

Score Point 0

Response 1

I believe mouse 3 with tan and black fur is most fit of the reproductive because their time of death calculated in months are 4 which is a decent amount of living because they produce a number of 3 of offspring in their first litter which means that even if the original mouse dies eventually there will still be a good amount due to the three offsprings. It has a average running speed of 7 which is fast enough to run and hide from predators that eat mice such as snakes which will help the baby mice escape due to the original mices genetics handed to the offsprings.

The response is incorrect and provides no understanding. The response provides an incorrect identification and no discussion of blending into the environment.

The response must select the tan mouse (#2) to get credit for identification. Giving the tan-and-black mouse (#3) does not detract from the correct response; however the tan-and-black fur color on its own does not receive credit as it is ignoring the most fit of all the mice.

Response 2

Based on the data provided, mice that have which fur color are most fit for reproductive success, the reason why mouse 4 the most fit, because it has a better chances of surviving and could posibility of escaping from any predator and it has a good time of death.

The response is incorrect and provides no understanding. The response provides an incorrect identification ("mouse 4") and provides no discussion of blending into the environment. The response provides some vague references without explaining why the fur color is related to these references ("better chances of surviving" and "escaping from any predator").

Response 3

I think that Mouses with the fur color Tan and black are most fit for reproductive success. I think this because they have a life span of 8 months and can have 11 offspring on their first litter. Which means if they have 11 offspring each month they can make 88 offsprings in 8 months.

The response is incorrect. The response provides little to no understanding.

The response has an incorrect identification ("Tan and black") and gives data from the table for the tan mouse, not the tan-and-black mouse.

Response 4

mouse 2 and mouse 1

The response is incorrect. The response has the correct answer ("mouse 2"); however, it has contradicted that by including "mouse 1," which had no reproductive success. The response provides little to no understanding.

Score Point 1

Response 1

I belive the best mouse for repredutive success would be the tan mouse i belive this beacause the tan mouse has a high age of death and a better number of offsprings in first litter, i dont belive the avrage running speed has anything to do with this but the tan would be the best.

The student answers half of the question correctly. The response provides partial understanding:

- The response identifies the most fit mouse ("tan mouse") correctly.

The student response mentions "a high age of death" and the number of offspring but offers no explanation for why tan fur would help them achieve these metrics. The response must reference the ability of the tan mice to blend in with their surroundings as the reason they are the most fit.

Response 2

Tan mice are more fit for reproductive success, because they live longer; which gives them more time for reproductive success and already produce the most offspring because of this factor. The reason tan mice are more fit, is because they don't die as quick as the other colored mice, because their fur color helps them survive in the environment that they live in.

The student answers half of the question correctly. The response provides partial understanding:

- The response identifies the most fit mouse ("tan mice").

The attempt to describe how the fur color helps them survive longer is too vague to show understanding ("helps them survive in the environment that they live in").

Response 3

based on the data provided mice that have tan fur are most fit for reproductive success because they have the longest life span. Giving them enough time to reproduce.

The student answers half of the question correctly. The response provides partial understanding:

- The response identifies the most fit mouse ("tan fur").

Although the response states that the tan mice live longer, it does not explain what enables them to live longer.

Response 4

The tan mouse is more fit for reproductive success because of its color.

The student answers half of the question correctly. The response provides partial understanding:

- The response identifies the most fit mouse ("tan mouse").

The response omits an explanation of why its color would make it more fit.

Score Point 2

Response 1

According to the data, mice that have tan-colored fur are most fit for reproductive success, as they have 11 offspring in their first litter – the most of all four mice. This is because tan-colored fur helps them camouflage in the tan-colored sand and makes it harder for predators to see them. In this beach environment, tan-colored fur is an advantage for mice and lets them stay alive for longer periods of time and produce more offspring.

The response provides complete and correct understanding:

- The response identifies the most fit mouse (“tan-colored fur”).
- The student explains that the mouse can blend into its surroundings (“tan-colored fur helps them camouflage in the tan-colored sand”).

Response 2

Mice with tan fur are the most fit for reproductive success. They can blend in with the sand, causing them to have a better chance at survival. In the chart you can see that out of all the mice, the one with the tan fur lives longer and has more offspring.

The response provides complete and correct understanding:

- The response identifies the most fit mouse (“Mice with tan fur”).
- The student explains that the mouse can blend into its surroundings (“They can blend in with the sand”).

Response 3

Mice that have tan fur are most likely to have reproductive success due to them having longer to live. The other colors of mice tend to die 2-3 times faster, this is because they are easier to see and find. The tan color mice may be slow, but it does not need to be fast as long as it remains unseen, in which they blend in with the sand. The tan mice also have more offspring, making the reproductive cycle bigger.

The response provides complete and correct understanding:

- The response identifies the most fit mouse ("Mice that have tan fur").
- The student explains that the mouse can blend into its surroundings ("as long as it remains unseen, in which they blend in with the sand").

Response 4

The mice that are the most fit for reproduction are the Tan mice because they had the most offspring and were able to live a longer time whereas the others with different colors were easier to be spotted by predators. The Black mice and White mice only lived to 2 months and were able to have 0 offspring, the Tan and Black mouse was able to live for 4 months and only was able to have 3 offspring, but the Tan mouse lived as long as all of them combined, 8 months, and also had more offspring then all of them combined, 11, all because of the ability to not be spotted.

The response provides complete and correct understanding:

- The response identifies the most fit mouse ("Tan mice").
- The student explains that the mouse can blend into its surroundings, making the tan mouse less easy to be seen by predators ("the others with different colors were easier to be spotted by predators"; "ability to not be spotted").