

STAAR Spring 2025 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	7.6.(B)	1	B	1	Readiness
2	Drag and Drop	8.9(A)	2	See Appendix 1.1	3	Readiness
3	Multiple Choice	7.6(C)	1	A	1	Supporting
4	Multiple Choice	8.9(B)	1	D	3	Supporting
5	Multiple Choice	8.7(B)	1	D	2	Readiness
6	Multipart	7.10(B)	2	A, D	3	Readiness
7	Multiple Choice	8.12(B)	1	C	4	Supporting
8	Multiple Choice	6.12(A)	1	B	4	Readiness
9	Multiple Choice	6.9(A)	1	B	3	Readiness
10	Multiple Choice	6.6(C)	1	C	1	Supporting
11	Multiple Choice	6.9(B)	1	A	3	Supporting
12	Multiple Choice	8.7(B)	1	D	2	Readiness
13	Multiple Choice	8.7(A)	1	A	2	Readiness
14	Multiple Choice	8.13(C)	1	C	4	Supporting
15	Multiple Choice	6.7(B)	1	B	2	Readiness
16	Multiple Choice	8.6(E)	1	C	1	Readiness
17	Multiselect	7.7(C)	2	See Appendix 1.2	2	Supporting
18	Multipart	6.12(A)	2	C, D	4	Readiness
19	Multiple Choice	8.9(A)	1	C	3	Readiness
20	Multiple Choice	6.8(B)	1	D	2	Supporting
21	Multiple Choice	7.6(B)	1	D	1	Readiness
22	Short Constructed Response	6.7(B)	2	See Appendix 1.3	2	Readiness
23	Multiple Choice	7.7(A)	1	A	2	Supporting
24	Multiple Choice	6.9(A)	1	B	3	Readiness
25	Multiple Choice	8.10(C)	1	B	3	Supporting

26	Multiple Choice	7.10(B)	1	C	3	Readiness
27	Drag and Drop	8.6(E)	2	See Appendix 1.4	1	Readiness
28	Multiple Choice	7.11(B)	1	B	4	Supporting
29	Short Constructed Response	7.6(C)	2	See Appendix 1.5	1	Supporting
30	Multiple Choice	7.13(C)	1	D	4	Supporting
31	Multiple Choice	7.13(A)	1	C	4	Supporting
32	Drag and Drop	6.12(A)	2	See Appendix 1.6	4	Readiness
33	Multiple Choice	8.12(C)	1	A	4	Supporting
34	Multiple Choice	8.12(B)	1	B	4	Supporting
35	Numeric Entry	7.12(A)	1	3	1	Supporting
36	Multiple Choice	8.7(B)	1	C	2	Readiness
37	Multiple Choice	7.10(B)	1	C	3	Readiness
38	Multiple Choice	7.6(B)	1	D	1	Readiness

STAAR Spring 2025 Grade 8 Science
Appendix

1.1

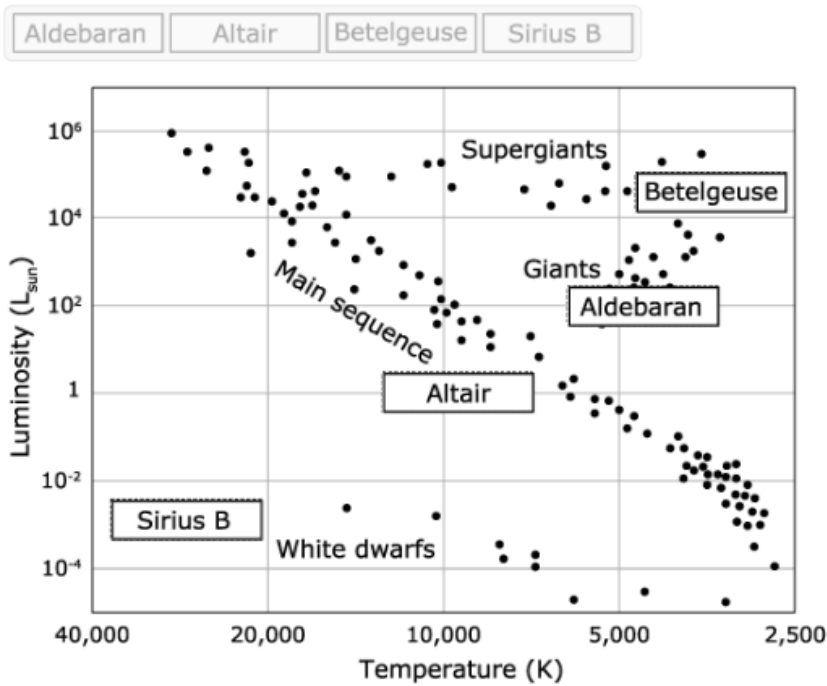
The table lists the characteristics of four stars.

Star Characteristics

	Aldebaran	Altair	Betelgeuse	Sirius B
Luminosity (Sun = 1)	10^2	1	10^4	10^{-3}
Temperature	4,200 K	8,500 K	3,000 K	30,000 K

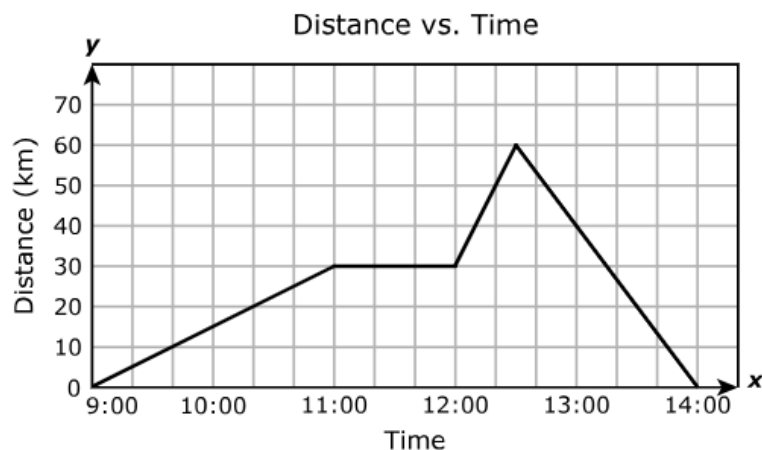
How is each star categorized in the Hertzsprung-Russell diagram?

Move the correct answer to each box.



1.2

A train left the station at 9:00 and traveled as shown by the distance-time graph.



Which statements **BEST** describe the motion of the train? Select **TWO** correct answers.

☐ The train accelerates until 11:00, and then the speed becomes constant.

☒ The train has a constant speed until 11:00 and then stops moving.

☐ The train's speed increases, starting at 12:30.

☒ The train reverses direction at 12:30.

☐ The train travels a total round-trip distance of 60 km.

1.3

The diagram shows a 100-kilogram box moving at a constant velocity of 2.0 meters per second (m/s) across a smooth surface. As the box continues to move, it will enter an area with a rough surface.



When the box slides onto the rough surface, that surface applies a frictional force of 0.5 newtons (N) to the box.

What is the net force on the box before and after the box encounters the rough surface **AND** what is the effect of the net force on the motion of the box?

Look at the diagram carefully. Then enter your answer and explanation in the box provided.

The student response states that there was no net force on the box (or that the net force was zero) before the rough surface and that the net force after entering the rough surface was 0.5 N, AND this had the effect of decreasing the box's velocity.

1.4

A student measures the mass of a tarnished silver ring and 50 mL of a baking soda solution. The student puts the ring in a pan, adds the baking soda solution to the pan, and stirs it well. After 30 minutes, the student removes the ring from the pan, and it appears shiny and new. The student observes tiny, yellow flakes in the solution at the bottom of the pan.

What is the student **MOST LIKELY** to discover about the mass of the ring and solution after the ring is removed from the pan?

Move the correct answer to each box. Each answer may be used more than once.

increase decrease remain the same

The mass of the ring will decrease. The mass of the solution will increase. The total mass of the ring and the solution will remain the same.

1.5

A teacher performs these steps for a class demonstration, and students record their observations.

1. Put a small candle in a candleholder.
2. Light a match.
3. Use the flame from the match to light the candle.
4. Let the candle burn for 5 minutes.
5. Blow out the flame.
6. Let the students examine the candle after it has cooled.

What is an example of a physical change that occurred during the demonstration **AND** what is an example of a chemical change that occurred during the demonstration? Explain your reasoning.

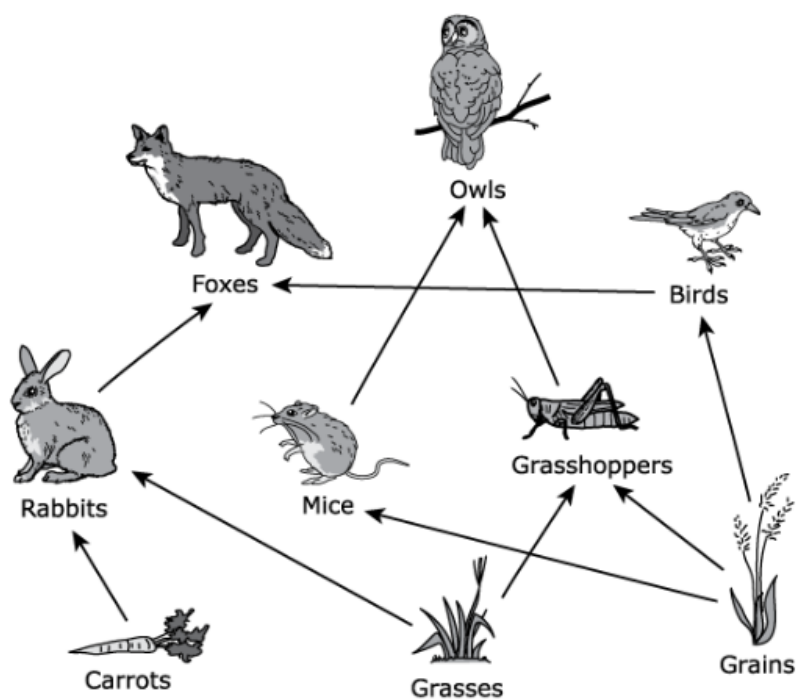
Read the question carefully. Then enter your answer and explanation in the box provided.

The student selects one of the following as an example of a physical change: wax changing from solid to liquid or changing from liquid to solid. The student selects one of the following as an example of a chemical change: the match igniting, the match burning in air, the candle wick burning the candle wax.
AND

Reasoning for physical change includes the fact that there is no change in the basic characteristics of the wax. Reasoning for chemical change includes the fact that the changes cannot be reversed by physical means OR that the chemical properties are altered.

1.6

The diagram shows a food web in a forest ecosystem.



How would each population change if there were a decrease in the populations of grasshoppers and mice?

Move the correct answer to each box in the table. Each answer may be used more than once.

Population	Result
Carrots	Remain the same
Grasses	Increase
Rabbits	Increase
Owls	Decrease