

State of Texas Assessments of Academic Readiness

TEST INSTRUCTIONS

GRADE 8 Science STAAR Alternate 2

Administered April 2023

RELEASED

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Texas Essential Knowledge and Skills (TEKS) Curriculum Assessed

Science Grade 8		Cluster 1	
Reporting Category 3	Earth and Space: The student will demonstrate an understanding of		
	components, cycles, patterns, and natural even	nts of Earth and space	
	systems.		
Knowledge and Skills	The student knows that climatic interactions ex	kist among Earth, ocean,	
Statement 8.10	and weather systems.		
Essence Statement	Knows that interactions exist among Earth, ocean, and weather systems.		
Item 1 Prerequisite Skill	identify characteristics of the seasons of the year and day and night (1)		
Item 2 Prerequisite Skill	identify the importance of weather and seasonal information to make		
-	choices in clothing, activities, and transportation	on (2)	
Item 3 Prerequisite Skill	collect and analyze data to identify sequences and predict patterns of		
	change in shadows, tides, seasons, and the observable appearance of the		
	Moon over time (4)		
Item 4 Prerequisite Skill	collect and analyze data to identify sequences and predict patterns of		
	change in shadows, tides, seasons, and the observable appearance of the		
	Moon over time (4)		

Science Grade 8		Cluster 2
Reporting Category 2	Matter and Energy: The student will demonstrate an understanding of the	
	properties of matter and energy and their interactions.	
Knowledge and Skills	The student knows that matter has measurabl	e physical properties and
Statement 6.8	those properties determine how matter is class	sified, changed, and used.
Essence Statement	Recognizes that force and motion are related to potential and kinetic	
	energy.	
Item 5 Prerequisite Skill	dill observe, investigate, describe, and discuss properties and charac	
•	of common objects (Pre-K)	
Item 6 Prerequisite Skill	classify objects by observable properties such	as larger and smaller,
-	heavier and lighter, shape, color, and texture	(1)
Item 7 Prerequisite Skill	classify matter by physical properties, includin	
•	texture, flexibility, and whether material is a s	olid or liquid (2)
Item 8 Prerequisite Skill	classify matter by physical properties, includin	g relative temperature,
	texture, flexibility, and whether a material is s	olid or liquid (2)

Science Grade 8		Cluster 3
Reporting Category 4	Organisms and Environments: The student wil understanding of the structures and functions their interdependence on each other and on th	of living organisms and
Knowledge and Skills Statement 7.10	The student knows that there is a relationship between organisms and the environment.	
Essence Statement	Knows the importance of biodiversity to the he	ealth of an ecosystem.
Item 9 Prerequisite Skill	gather evidence of interdependence among liv energy transfer through food chains or animal	
Item 10 Prerequisite Skill	gather evidence of interdependence among liv energy transfer through food chains or animal	
Item 11 Prerequisite Skill	describe the flow of energy through food webs and predict how changes in the ecosystem affe	
Item 12 Prerequisite Skill	investigate that most producers need sunlight to make their own food, while consumers are organisms for food (4)	

Science Grade 8		Cluster 4
Reporting Category 1	Matter and Energy: The student will demonstrate properties of matter and energy and their inter	-
Knowledge and Skills Statement 8.5	The student knows that matter is composed of and physical properties.	atoms and has chemical
Essence Statement	Recognizes that matter is composed of atoms, and interacts with energy.	has distinct properties,
Item 13 Prerequisite Skill	predict and identify changes in materials cause (1)	ed by heating and cooling
Item 14 Prerequisite Skill	compare changes in materials caused by heating	ng and cooling (2)
Item 15 Prerequisite Skill	describe and classify samples of matter as solid demonstrate that solids have a definite shape a take the shape of their container (3)	
Item 16 Prerequisite Skill	predict, observe, and record changes in the sta heating or cooling such as ice becoming liquid forming on the outside of a glass of ice water, heated to the point of becoming water vapor (water, condensation or liquid water being

Science Grade 8		Cluster 5
Reporting Category 2	Force, Motion, and Energy: The student will de understanding of force, motion, and energy and	
Knowledge and Skills Statement 8.6	The student knows that there is a relationship l energy.	between force, motion, and
Essence Statement	Recognizes that relationships exist between for	rce, motion, and energy.
Item 17 Prerequisite Skill	demonstrate and record the ways that objects straight line, zigzag, up and down, back and fo fast and slow (1)	
Item 18 Prerequisite Skill	demonstrate and record the ways that objects straight line, zigzag, up and down, back and fo fast and slow (1)	
Item 19 Prerequisite Skill	demonstrate and observe how position and mo pushing and pulling objects such as swings, ba	
Item 20 Prerequisite Skill	demonstrate and observe how position and mo pushing and pulling objects such as swings, ba	

SCIENCE

- Present Stimulus 1.
- *Direct* the student to Stimulus 1. *Communicate:* **During the winter, the weather can be cold and snowy.**
- Communicate: Find the weather that is cold and snowy.



Scoring Instructions			
Student Action		Test Administrator Action	
If the student finds the weather that is cold and snowy,	•	mark A for question 1 and move to question 2.	
If the student does not find the weather that is cold and snowy,	•	 remove the stimulus; wait at least five seconds; and replicate the initial presentation instructions. 	
After the five-second wait time, if the student finds the weather that is cold and snowy,	•	mark B for question 1 and move to question 2.	
After the five-second wait time, if the student does not find the weather that is cold and snowy,	•	mark C for question 1 and move to question 2.	

- Present Stimulus 2a and 2b.
- *Direct* the student to Stimulus 2a. *Communicate:* This girl is wearing a coat to keep warm when outside during the winter.
- *Direct* the student to each answer choice in Stimulus 2b. *Communicate:* These are flip-flops. These are thick gloves.
- Communicate: Find what can be worn to keep warm when outside during the winter.

Stimulus 2a



Stimulus 2b



Scoring Instructions			
Student Action		Test Administrator Action	
If the student finds the thick gloves in Stimulus 2b,	•	mark A for question 2 and move to question 3.	
If the student does not find the thick gloves in Stimulus 2b,	•	 model the desired student action by finding thick gloves in Stimulus 2b and <i>communicate</i> "Thick gloves can be worn to keep warm when outside during the winter"; and replicate the initial presentation instructions. 	
After teacher modeling, if the student finds the thick gloves in Stimulus 2b,	•	mark B for question 2 and move to question 3.	
After teacher modeling, if the student does not find the thick gloves in Stimulus 2b,	•	mark C for question 2 and move to question 3.	

- Present Stimulus 3a and 3b.
- *Direct* the student to Stimulus 3a. *Communicate:* Each season has different characteristics. These are trees and bushes during the fall season.
- Direct the student to each answer choice in Stimulus 3b. Communicate the text in each answer choice.
- Communicate: Find some characteristics of the fall season.

Stimulus 3a



Stimulus 3b

- leaves change colors
- trees lose their leaves
- new plant growth
- flowers bloom
- fresh snow
- rainiest time of year

Scoring Instructions				
Student Action		Test Administrator Action		
If the student finds "leaves change colors, trees lose their leaves" in Stimulus 3b,	•	mark A for question 3 and move to question 4.		
If the student does not find "leaves change colors, trees lose their leaves" in Stimulus 3b,		provide <i>one</i> of these allowable teacher assists to the student:		
		 Have the student describe the photograph in Stimulus 3a. OR Have the student describe activities that occur during the fall. Highlight the first bullet in each answer choice in Stimulus 3b. Replicate the initial presentation instructions. 		
After the selected teacher assistance, if the student finds "leaves change colors, trees lose their leaves" in Stimulus 3b,	•	mark B for question 3 and move to question 4.		
After the selected teacher assistance, if the student does not find "leaves change colors, trees lose their leaves" in Stimulus 3b,	•	mark C for question 3 and move to question 4.		

- Present Stimulus 4.
- Direct the student to Stimulus 4. Communicate: Each season has different characteristics.
- Direct the student to each answer choice in Stimulus 4. Communicate the text in each answer choice.
- Communicate: Find the season with the fewest hours of daylight in the United States.

Stimulus 4	summer	
	fall	
*	winter	

Scoring Instructions			
Student Action		Test Administrator Action	
If the student finds "winter,"	•	mark A for question 4 and move to question 5.	
If the student does not find "winter,"	•	replicate the initial presentation instructions.	
After the teacher repeats the instructions, if the student finds "winter,"	•	mark B for question 4 and move to question 5.	
After the teacher repeats the instructions, if the student does not find "winter,"	•	mark C for question 4 and move to question 5.	

- Present Stimulus 5.
- Direct the student to Stimulus 5. Communicate: This swing is moving back and forth.
- Communicate: Find the swing.



Scoring Instructions			
Student Action		Test Administrator Action	
If the student finds the swing,	•	mark A for question 5 and move to question 6.	
If the student does not find the swing,	•	 remove the stimulus; wait at least five seconds; and replicate the initial presentation instructions. 	
After the five-second wait time, if the student finds the swing,	•	mark B for question 5 and move to question 6.	
After the five-second wait time, if the student does not find the swing,	•	mark C for question 5 and move to question 6.	

- Present Stimulus 6a and 6b.
- *Direct* the student to Stimulus 6a. *Communicate:* This swing being pushed to move back and forth demonstrates mechanical energy.
- *Direct* the student to each answer choice in Stimulus 6b. *Communicate:* This boy is swinging an object on a string. This boy is standing next to an object.
- Communicate: Find an example of mechanical energy.



Scoring Instructions			
Student Action		Test Administrator Action	
If the student finds the boy swinging an object on a string in Stimulus 6b,	•	mark A for question 6 and move to question 7.	
If the student does not find the boy swinging an object on a string in Stimulus 6b,	•	 model the desired student action by finding the boy swinging an object on a string in Stimulus 6b and <i>communicate</i> "The boy swinging an object on a string is an example of mechanical energy"; and replicate the initial presentation instructions. 	
After teacher modeling, if the student finds the boy swinging an object on a string in Stimulus 6b,	•	mark B for question 6 and move to question 7.	
After teacher modeling, if the student does not find the boy swinging an object on a string in Stimulus 6b,	•	mark C for question 6 and move to question 7.	

- Present Stimulus 7a and 7b.
- *Direct* the student to Stimulus 7a. *Communicate:* The boy has a heavy object to lift from the floor to a higher point.
- *Direct* the student to each answer choice in Stimulus 7b. *Communicate:* The boy lifts the object with his body. The boy lifts the object with a pulley. The boy pushes the object.
- Communicate: Find how the boy can reduce the force needed to lift the heavy object.



Scoring Instructions			
Student Action		Test Administrator Action	
If the student finds the boy using a pulley in Stimulus 7b,	•	mark A for question 7 and move to question 8.	
		provide <i>one</i> of these allowable teacher assists to the student:	
If the student does not find the boy using a pulley in Stimulus 7b,	•	 Have the student describe some of the experiments he or she has done with simple machines. OR Role-play what is happening in each answer choice. 	
		Replicate the initial presentation instructions.	
After the selected teacher assistance, if the student finds the boy using a pulley in Stimulus 7b,	•	mark B for question 7 and move to question 8.	
After the selected teacher assistance, if the student does not find the boy using a pulley in Stimulus 7b,	•	mark C for question 7 and move to question 8.	

- Present Stimulus 8a and 8b.
- *Direct* the student to Stimulus 8a. *Communicate:* Some students are investigating the amount of force needed to lift weights using a lever. The students use a triangle as a fulcrum in different positions along the lever. When the fulcrum is placed closer to the pair of weights, the single weight is able to lift the pair of weights.
- *Direct* the student to each answer choice in Stimulus 8b. *Communicate* the text in each answer choice.
- Communicate: Find why the single weight can lift the pair of weights.

Stimulus 8a Stimulus 8b		
	The single weight is heavier than the pair of weights.	
	Sliding the single weight closer to the pair of weights makes lifting the pair of weights easier.	
k	Moving the triangle closer to the pair of weights reduces the amount of force needed for the lever to lift them.	

Scoring Instructions			
Student Action		Test Administrator Action	
If the student finds "Moving the triangle closer to the pair of weights reduces the amount of force needed for the lever to lift them" in Stimulus 8b,	•	mark A for question 8 and move to question 9.	
If the student does not find "Moving the triangle closer to the pair of weights reduces the amount of force needed for the lever to lift them" in Stimulus 8b,	•	replicate the initial presentation instructions.	
After the teacher repeats the instructions, if the student finds "Moving the triangle closer to the pair of weights reduces the amount of force needed for the lever to lift them" in Stimulus 8b,	•	mark B for question 8 and move to question 9.	
After the teacher repeats the instructions, if the student does not find "Moving the triangle closer to the pair of weights reduces the amount of force needed for the lever to lift them" in Stimulus 8b,	•	mark C for question 8 and move to question 9.	

• Present Stimulus 9.

- Direct the student to Stimulus 9. Communicate: This is a food web from a Gulf of Mexico biome.
- Communicate: Find the food web.



Scoring Instructions			
Student Action		Test Administrator Action	
If the student finds the food web,	•	mark A for question 9 and move to question 10.	
If the student does not find the food web,	•	 remove the stimulus; wait at least five seconds; and replicate the initial presentation instructions. 	
After the five-second wait time, if the student finds the food web,	•	mark B for question 9 and move to question 10.	
After the five-second wait time, if the student does not find the food web,	•	mark C for question 9 and move to question 10.	

- Present Stimulus 10a and 10b.
- Direct the student to Stimulus 10a. Communicate the text.
- *Direct* the student to each answer choice in Stimulus 10b. *Communicate:* This is a penguin. This is a tuna.
- Communicate: Find an organism that is in this food web.



Scoring Instructions			
Student Action		Test Administrator Action	
If the student finds the tuna in Stimulus 10b,	•	mark A for question 10 and move to question 11.	
If the student does not find the tuna in Stimulus 10b,	•	 model the desired student action by finding the tuna in Stimulus 10b and <i>communicate</i> "A tuna is in this food web"; and replicate the initial presentation instructions. 	
After teacher modeling, if the student finds the tuna in Stimulus 10b,	•	mark B for question 10 and move to question 11.	
After teacher modeling, if the student does not find the tuna in Stimulus 10b,	•	mark C for question 10 and move to question 11.	

- *Present* Stimulus 11a and 11b.
- Direct the student to Stimulus 11a. Communicate the text.
- *Direct* the student to each answer choice in Stimulus 11b. *Communicate* the text in each answer choice.
- Communicate: Find how a sudden elimination of zooplankton will immediately affect this food web.



Scoring Instructions			
Student Action		Test Administrator Action	
If the student finds "Shrimp numbers will decrease" in Stimulus 11b,	•	mark A for question 11 and move to question 12.	
		provide <i>one</i> of these allowable teacher assists to the student:	
If the student does not find "Shrimp numbers will decrease" in Stimulus 11b,	•	 Have the student describe one flow of energy from the phytoplankton to the shark. OR Define "consumer." OR Highlight "phytoplankton," "tuna," and "shrimp" in Stimulus 11a. 	
		Replicate the initial presentation instructions.	
After the selected teacher assistance, if the student finds "Shrimp numbers will decrease" in Stimulus 11b,	•	mark B for question 11 and move to question 12.	
After the selected teacher assistance, if the student does not find "Shrimp numbers will decrease" in Stimulus 11b,	•	mark C for question 11 and move to question 12.	

- *Present* Stimulus 12a and 12b.
- Direct the student to Stimulus 12a. Communicate the text.
- *Direct* the student to the stem and each answer choice in Stimulus 12b. *Communicate* the text in the stem and each answer choice.
- Communicate: Find why phytoplankton are producers.



Scoring Instructions			
Student Action		Test Administrator Action	
If the student finds "they use sunlight to make their own food" in Stimulus 12b,	•	mark A for question 12 and move to question 13.	
If the student does not find "they use sunlight to make their own food" in Stimulus 12b,	•	replicate the initial presentation instructions.	
After the teacher repeats the instructions, if the student finds "they use sunlight to make their own food" in Stimulus 12b,	•	mark B for question 12 and move to question 13.	
After the teacher repeats the instructions, if the student does not find "they use sunlight to make their own food" in Stimulus 12b,	•	mark C for question 12 and move to question 13.	

- Present Stimulus 13.
- *Direct* the student to Stimulus 13. *Communicate:* Water can be a solid, a liquid, or a gas. When water boils, it changes into a gas.
- Communicate: Find the gas.



Scoring Instructions		
Student Action		Test Administrator Action
If the student finds the gas,	•	mark A for question 13 and move to question 14.
If the student does not find the gas,	•	 remove the stimulus; wait at least five seconds; and replicate the initial presentation instructions.
After the five-second wait time, if the student finds the gas,	•	mark B for question 13 and move to question 14.
After the five-second wait time, if the student does not find the gas,	•	mark C for question 13 and move to question 14.

- *Present* Stimulus 14a and 14b.
- *Direct* the student to Stimulus 14a. *Communicate:* When heat is added to water, it begins to boil. The steam that is released is a gas.
- *Direct* the student to each answer choice in Stimulus 14b. *Communicate:* This is a hot cup of coffee. This is a watering can.
- Communicate: Find the liquid that is changing to gas.



Scoring Instructions			
Student Action		Test Administrator Action	
If the student finds the hot cup of coffee in Stimulus 14b,	•	mark A for question 14 and move to question 15.	
If the student does not find the hot cup of coffee in Stimulus 14b,	•	 model the desired student action by finding the hot cup of coffee in Stimulus 14b and <i>communicate</i> "The hot cup of coffee is liquid changing to gas"; and replicate the initial presentation instructions. 	
After teacher modeling, if the student finds the hot cup of coffee in Stimulus 14b,	•	mark B for question 14 and move to question 15.	
After teacher modeling, if the student does not find the hot cup of coffee in Stimulus 14b,	•	mark C for question 14 and move to question 15.	

- *Present* Stimulus 15a and 15b.
- *Direct* the student to Stimulus 15a. *Communicate:* **Solids, liquids, and gases have different properties. This is ice. It is a solid.** *Communicate* the text.
- *Direct* the student to each answer choice in Stimulus 15b. *Communicate* the text in each answer choice.
- Communicate: Find the description of a solid.



Scoring Instructions			
Student Action		Test Administrator Action	
If the student finds "definite mass and definite shape" in Stimulus 15b,	•	mark A for question 15 and move to question 16.	
		provide <i>one</i> of these allowable teacher assists to the student:	
If the student does not find "definite mass and definite shape" in Stimulus 15b,	•	 Give examples of other solids. OR Have the student give an example of a solid, liquid, or gas. 	
		Replicate the initial presentation instructions.	
After the selected teacher assistance, if the student finds "definite mass and definite shape" in Stimulus 15b,	•	mark B for question 15 and move to question 16.	
After the selected teacher assistance, if the student does not find "definite mass and definite shape" in Stimulus 15b,	•	mark C for question 15 and move to question 16.	

- *Present* Stimulus 16a and 16b.
- *Direct* the student to Stimulus 16a. *Communicate:* This is a hot beverage that is turning into steam, a gas.
- *Direct* the student to each answer choice in Stimulus 16b. *Communicate* the text in each answer choice.
- Communicate: Find why the beverage changes from a liquid to a gas.



Scoring Instructions			
Student Action		Test Administrator Action	
If the student finds "It had heat added" in Stimulus 16b,	•	mark A for question 16 and move to question 17.	
If the student does not find "It had heat added" in Stimulus 16b,	•	replicate the initial presentation instructions.	
After the teacher repeats the instructions, if the student finds "It had heat added" in Stimulus 16b,	•	mark B for question 16 and move to question 17.	
After the teacher repeats the instructions, if the student does not find "It had heat added" in Stimulus 16b,	•	mark C for question 16 and move to question 17.	

- Present Stimulus 17.
- *Direct* the student to Stimulus 17. *Communicate:* The wheels on this bicycle turn around and around.
- Communicate: Find the wheels that turn around and around.



Scoring Instructions			
Student Action		Test Administrator Action	
If the student finds the wheels turning around and around,	•	mark A for question 17 and move to question 18.	
If the student does not find the wheels turning around and around,	•	 remove the stimulus; wait at least five seconds; and replicate the initial presentation instructions. 	
After the five-second wait time, if the student finds the wheels turning around and around,	•	mark B for question 17 and move to question 18.	
After the five-second wait time, if the student does not find the wheels turning around and around,	•	mark C for question 17 and move to question 18.	

- Present Stimulus 18a and 18b.
- Direct the student to Stimulus 18a. Communicate: These bicycle wheels turn around and around.
- *Direct* the student to each answer choice in Stimulus 18b. *Communicate:* This is a bouncing ball. This is a Ferris wheel.
- Communicate: Find the object that turns around and around.



Scoring Instructions			
Student Action		Test Administrator Action	
If the student finds the Ferris wheel in Stimulus 18b,	•	mark A for question 18 and move to question 19.	
If the student does not find the Ferris wheel in Stimulus 18b,	•	 model the desired student action by finding the Ferris wheel in Stimulus 18b and <i>communicate</i> "The Ferris wheel turns around and around"; and replicate the initial presentation instructions. 	
After teacher modeling, if the student finds the Ferris wheel in Stimulus 18b,	•	mark B for question 18 and move to question 19.	
After teacher modeling, if the student does not find the Ferris wheel in Stimulus 18b,	•	mark C for question 18 and move to question 19.	

- *Present* Stimulus 19a and 19b.
- *Direct* the student to Stimulus 19a. *Communicate:* This girl is using her feet to make the balance bike move forward.
- *Direct* the student to each answer choice in Stimulus 19b. *Communicate* the text in each answer choice.
- Communicate: Find what will happen when the girl uses the brakes.

 Stimulus 19a

 Stimulus 19b

 The bike will move at a faster speed.

 The bike will continue to move forward at the same speed.

 *

 The bike will move at a slower speed.

Scoring Instructions			
Student Action		Test Administrator Action	
If the student finds "The bike will move at a slower speed" in Stimulus 19b,	•	mark A for question 19 and move to question 20.	
		provide <i>one</i> of these allowable teacher assists to the student:	
If the student does not find "The bike will move at a slower speed" in Stimulus 19b,	•	 Highlight "faster speed," "same speed," and "slower speed" in Stimulus 19b. OR Have the student describe how to make each answer choice in Stimulus 19b happen. 	
		Replicate the initial presentation instructions.	
After the selected teacher assistance, if the student finds "The bike will move at a slower speed" in Stimulus 19b,	•	mark B for question 19 and move to question 20.	
After the selected teacher assistance, if the student does not find "The bike will move at a slower speed" in Stimulus 19b,	•	mark C for question 19 and move to question 20.	

- Present Stimulus 20.
- *Direct* the student to Stimulus 20. *Communicate:* This girl is riding her balance bike on a trail with a ramp.
- Direct the student to each answer choice in Stimulus 20. Communicate the text in each answer choice.
- Communicate: Find where the most force is needed to move the balance bike forward.



Scoring Instructions			
Student Action		Test Administrator Action	
If the student finds "at the base of the ramp going up,"	•	mark A for question 20.	
If the student does not find "at the base of the ramp going up,"	•	replicate the initial presentation instructions.	
After the teacher repeats the instructions, if the student finds "at the base of the ramp going up,"	•	mark B for question 20.	
After the teacher repeats the instructions, if the student does not find "at the base of the ramp going up,"	•	mark C for question 20.	

TEST INSTRUCTIONS

STAAR ALTERNATE 2 GRADE 8 Science April 2023

