Science

2026 STAAR TEST 5th GRADE ASSESSMENT – RELEASED TEST

Use for a student benchmark assessment in late January/early February 2027 for assessment of student readiness.

(Recommendation Note: **Students must not write directly on the assessment. To emulate a digital testing environment, all work must be completed on scratch paper. Students will then transfer their final answers to the provided Answer Key.)**

Answer Document – Fifth Grade Science Benchmark - NAME:_____

1.) _____

2.) _____

3.) _____

4.) _____

5.) _____ , _____

6.) _____

7.) _____

8.) _____

9.) _____

10.) Write your response on scratch paper. Your final version – neatly rewritten on the lines below

_____

_____

_____

_____

_____

_____

_____

_____

_____

11.) _____

12.) _____

13.) **Delta** **U-Shaped Valley** **V-Shaped Valley** **Sand Dune**

_____ _____ _____ _____

14.) _____

15.) _____

16.) _____

17.) _____

18.) _____

19.) _____

20.) _____

21.) _____

22.) _____

23.) _____ , _____

24.) _____

25.) _____

26.) _____

SOLUTION **Answer Document Fifth Grade Science Benchmark** **SOLUTION**

1.) D

2.) A

3.) C

4.) A

5.) C , A

FYI. Exchanged problems 5 and 4 from the original STAAR assessment to make problems fit on the page.

6.) C

7.) D

8.) C

9.) D

10.) Write your response on scratch paper. Your final version – neatly rewritten on the lines below

The student identifies that Sydney is experiencing summer AND that Sydney is experiencing more daylight hours than Chicago is, which indicates that it is summer in Sydney.

11.) D

12.) C

13.) | Delta | U-Shaped Valley | V-Shaped Valley | Sand Dune |
|---|---|---|---|
| C | F | J | R |

14.) D

15.) C

16.) D

17.) A

18.) A

19.) B

20.) A

21.) C

22.) A

23.) C , D

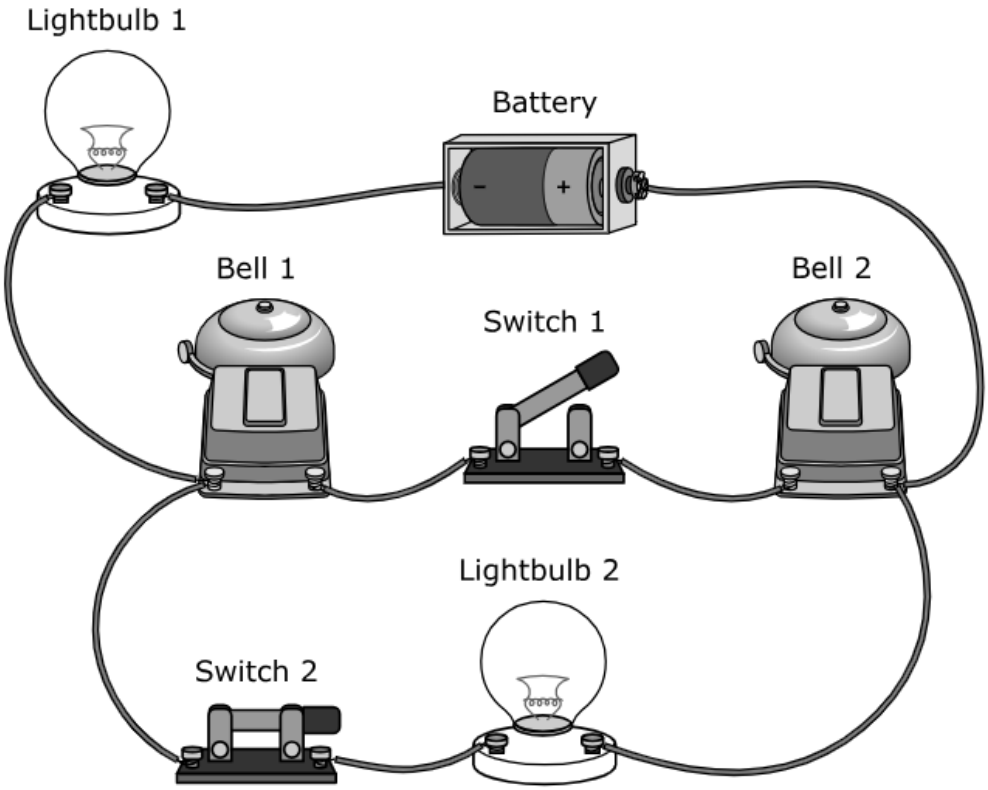
24.) D

25.) C

26.) A

2026 SCIENCE STAAR Test – 5th Grade Assessment

1 Students are using the electrical circuit shown.



If the students close Switch 1 and open Switch 2, which results will the students **MOST LIKELY** observe?

If the students close Switch 1 and open Switch 2, which results will the students **MOST LIKELY** observe?

Ⓐ
- Bell 1 and Bell 2 ring.
- Lightbulb 1 and Lightbulb 2 do not light up.

Ⓑ
- Bell 1 and Bell 2 do not ring.
- Lightbulb 1 does not light up, and Lightbulb 2 lights up.

Ⓒ
- Bell 1 and Bell 2 do not ring.
- Lightbulb 1 and Lightbulb 2 light up.

Ⓓ
- Bell 1 and Bell 2 ring.
- Lightbulb 1 lights up, and Lightbulb 2 does not light up.

2026 SCIENCE STAAR Test – 5th Grade Assessment

2 Both pitcher plants and Venus flytraps have specialized structures to capture and consume insects. The table gives information about the structures in one type of pitcher plant and one type of Venus flytrap.

Pitcher Plant



© Photogrape/Shutterstock.com

Venus Flytrap



© Lawlet/Shutterstock.com

Pitcher Plant	Venus Flytrap
It has an opening that is 3–9 cm wide.	It has an opening that is 1–3 cm wide.
The pitcher contains liquid.	The trap snaps shut around insects that land on the plant.
Insects, frogs, and mice can fall into the liquid and be digested.	The plant digests the insect.
It can also use sunlight to produce food.	It can also use sunlight to produce food.

Which statement describes an advantage of a pitcher plant compared to a Venus flytrap?

Ⓐ The pitcher plant opening enables the plant to catch more sizes of animals.

Ⓑ The pitcher plant can use sunlight to produce food.

Ⓒ The pitcher plant can survive in shady places.

Ⓓ The pitcher plant is adapted to survive without insects pollinating the plant.

2026 SCIENCE STAAR Test – 5th Grade Assessment

3 At a school in Austin, Texas, the school day ends at 4:00 P.M. Which event will happen during the 12 hours after the school day ends?

Ⓐ The sun will move halfway around Earth.

Ⓑ The sun will stop shining on Earth.

Ⓒ Earth will complete one-half turn on its axis.

Ⓓ Earth will move halfway around the sun.

4 Which piece of data represents the climate of an area?

Ⓐ The wind direction for several decades

Ⓑ The amount of precipitation that occurs during a hurricane

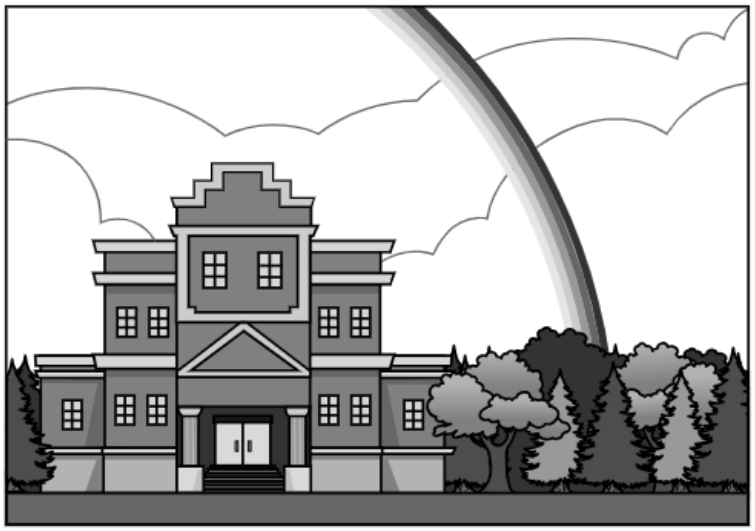
Ⓒ The wind speed every day during the windiest times of the year

Ⓓ The highest and lowest temperature every day for an entire season

2026 SCIENCE STAAR Test – 5th Grade Assessment

5 This question has two parts. First, answer Part A. Then answer Part B.

A student observes a rainbow in the sky, as shown.



Part A

Which behavior of light causes the rainbow to appear?

Ⓐ Absorption

Ⓑ Reflection

Ⓒ Refraction

Ⓓ Transmission

Part B

Which statement **BEST** supports the answer to Part A?

Ⓐ Light travels in air and water droplets at different speeds.

Ⓑ Light passes through water droplets.

Ⓒ Light bounces off water droplets.

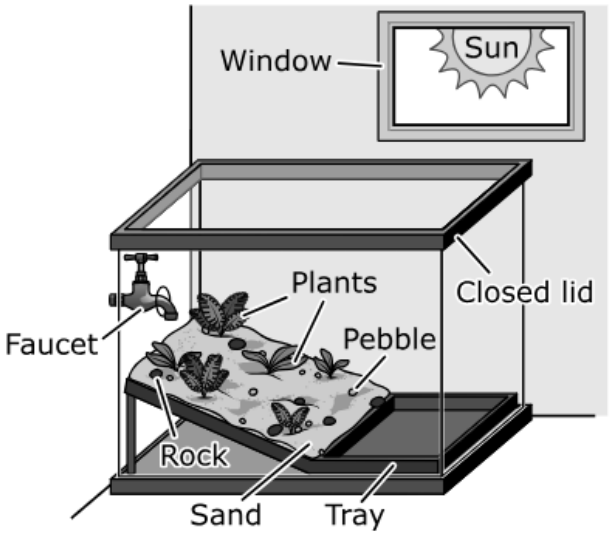
Ⓓ Light becomes part of the water droplets.

2026 SCIENCE STAAR Test – 5th Grade Assessment

Read the information provided. Then answer the following questions.

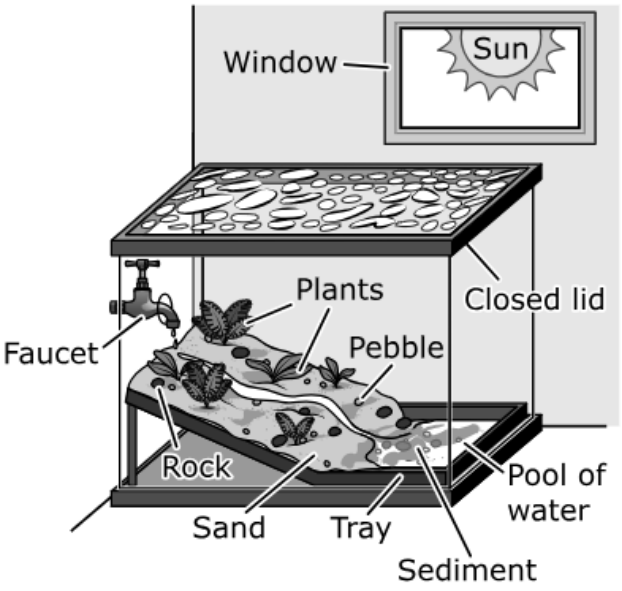
To model changes to Earth's surface, some students created a terrarium that had a small opening in the side for adding water. They placed the terrarium near a window and a faucet, as shown in Figure 1.

Figure 1: Terrarium before Adding Water



Each day for 10 days, students added drops of water from the faucet into the terrarium. Figure 2 shows what the students observed after adding the water.

Figure 2: Terrarium with Water Added



6 Students compared the physical properties of the sand and small pebbles in the pool of water shown in Figure 2.

Which table accurately describes the physical properties of the sand and the pebbles?

Ⓐ

	Soluble in Water	Floats in Water
Sand	Yes	Yes
Pebbles	No	No

Ⓑ

	Soluble in Water	Floats in Water
Sand	No	Yes
Pebbles	No	Yes

Ⓒ

	Soluble in Water	Floats in Water
Sand	No	No
Pebbles	No	No

Ⓓ

	Soluble in Water	Floats in Water
Sand	Yes	No
Pebbles	Yes	No

2026 SCIENCE STAAR Test – 5th Grade Assessment

7

The pool of water at the bottom of the terrarium in Figure 2 contains a mixture of small rocks, sand, and water. Which process could be used to separate the mixture of rocks and sand?

Ⓐ Use a magnet to attract the rocks

Ⓑ Use heat to boil the mixture

Ⓒ Use a coffee filter and shake the mixture

Ⓓ Use a sieve and run water through the mixture

8

Some students claimed that if they continued their investigation even longer, they would eventually be able to use the terrarium to model delta formation. Which process shown in Figure 2 supports the students' claim?

(A) A piece of ice that models a glacier sediment into mounds that model moraines.

(B) Wind inside the terrarium is weathering and scattering it in many new locations.

(C) A stream of runoff is carrying sediment down the slope and depositing the particles as it flows into the pool of water.

(D) Particles dissolved in evaporated water droplets are moved to a new location when the water vapor condenses.

9 An epiphyte is a type of plant that grows on another plant without harming the other plant, as shown.



Some orchids are epiphytes and may grow high up in the canopies of trees. Growing in the tree's canopy helps an orchid survive by protecting it from ground-dwelling predators. This is a biotic interaction between the two plants.

In what additional way do trees likely aid in the survival of orchids?

Ⓐ Protecting orchids from birds

Ⓑ Increasing the orchids' ability to absorb groundwater

Ⓒ Preventing orchids from being damaged by wind

Ⓓ Giving orchids better access to sunlight

10 For three days in a row, students recorded when the sun rose and when it set in the cities of Chicago, Illinois, and Sydney, Australia. The table shows their data.

Sunrise and Sunset Data

City	Day	Sunrise	Sunset
Chicago, Illinois	1	7:18 a.m.	4:30 p.m.
	2	7:18 a.m.	4:31 p.m.
	3	7:18 a.m.	4:32 p.m.
Sydney, Australia	1	5:47 a.m.	8:09 p.m.
	2	5:48 a.m.	8:09 p.m.
	3	5:49 a.m.	8:09 p.m.

Based on the data, which season is Sydney, Australia, **MOST LIKELY** experiencing, **AND** what evidence from the data table supports your answer?

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

Write your final response on your Answer Document.

Chars 0/475

11

Which statement **BEST** compares fossil fuel formation and sedimentary rock formation?

Ⓐ Fossil fuels form from weathering, while sedimentary rock forms from erosion.

Ⓑ Fossil fuels form quickly, while sedimentary rock takes millions of years to form.

Ⓒ Fossil fuels undergo deposition to form, while sedimentary rock undergoes cementation to form.

Ⓓ Fossil fuel formation requires large amounts of organic matter, while sedimentary rock formation does not.

2026 SCIENCE STAAR Test – 5th Grade Assessment

12

Students are investigating solutions in science class. Their observations of the materials used are listed:

- 100 grams of water that is clear and colorless
- 10 grams of red drink mix that has small crystals

The students add the red drink mix to a glass containing the water and stir the solution for 60 seconds.

Which result of the investigation will the students **MOST LIKELY** observe?

Ⓐ The mass of the water will decrease when the red drink mix is added.

Ⓑ The mass of the red drink mix will decrease when it is mixed into the water.

Ⓒ The new solution will contain 100 grams of water but will have a larger total mass.

Ⓓ The new solution will contain 110 grams of water and 110 grams of red drink mix.

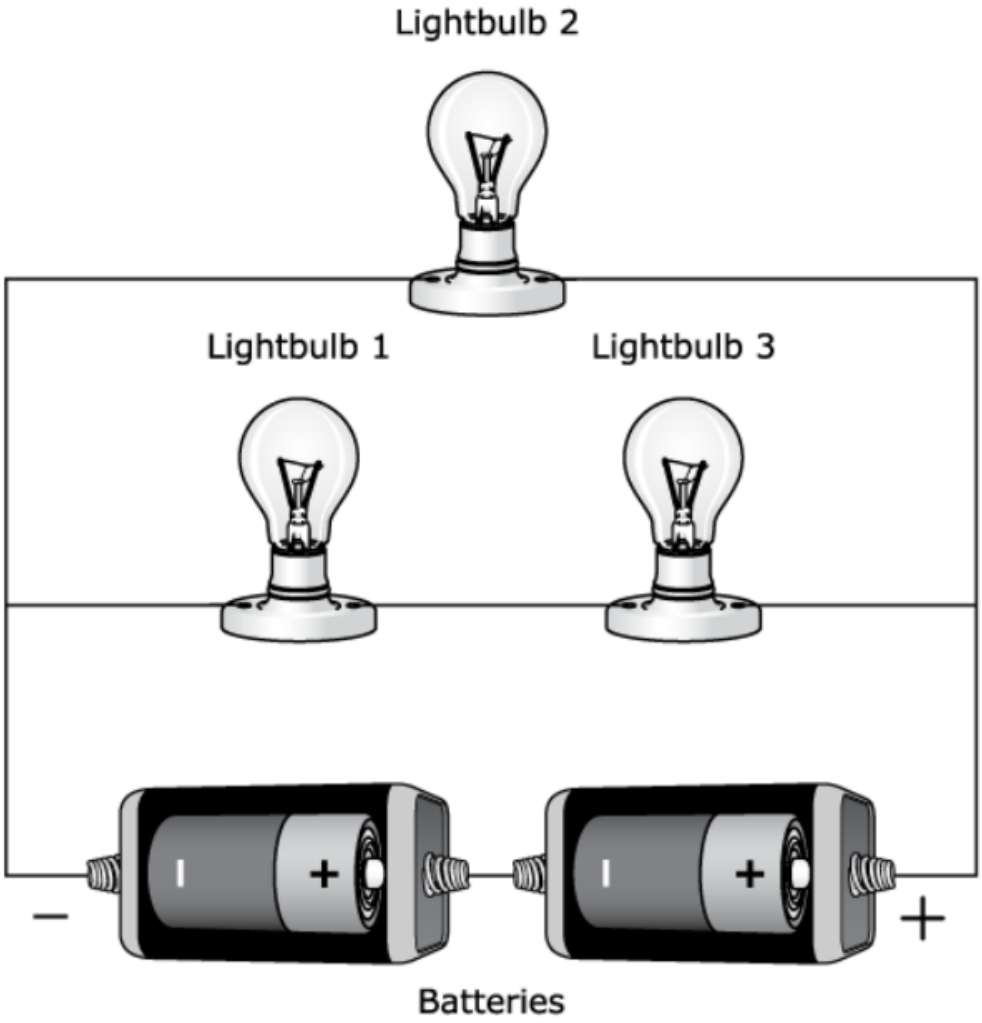
13

Landforms are created by different processes and types of erosion. Which type of landform is created mainly by each erosion process in the table?

Write the letter on your Answer Document, if it is correct.

Erosion Process	Delta	U-Shaped Valley	V-Shaped Canyon	Sand Dune
Fast-moving river water	A ☐	E ☐	J ☐	N ☐
Slow-moving glacier	B ☐	F ☐	K ☐	O ☐
River water changing from fast to slow	C ☐	G ☐	L ☐	P ☐
Steady, low-speed winds	D ☐	H ☐	M ☐	R ☐

14



Which change would occur if Lightbulb 3 were removed from its socket?

Ⓐ Lightbulbs 1 and 2 would stop glowing.

Ⓑ Lightbulbs 1 and 2 would continue to glow.

Ⓒ Lightbulb 1 would continue to glow, and Lightbulb 2 would stop glowing.

Ⓓ Lightbulb 2 would continue to glow, and Lightbulb 1 would stop glowing.

15 A student models part of the water cycle by following these steps:

1. Fill a glass jar with warm water.
2. Put a lid on the jar.
3. Place ice cubes on top of the jar lid.

What is the **MOST LIKELY** purpose of adding the ice cubes?

Ⓐ To model runoff

Ⓑ To model freezing

Ⓒ To model condensation

Ⓓ To model evaporation

16 Which sentence describes a result of the rotation of the Earth on its axis?

Ⓐ A full moon occurs once a month.

Ⓑ The sun moves from west to east.

Ⓒ Ocean tides reach high tide during the night.

Ⓓ The length of a shadow changes during the day.

2026 SCIENCE STAAR Test – 5th Grade Assessment

17 A teacher wears a bright-colored shirt to school. Why are the students able to see the bright-colored shirt?

The students are able to see the bright-colored shirt because the shirt [ ] light.

A	B	C	D
reflects	refracts	absorbs	produces

18 The calendar shows the phases of the moon observed each day in January.

JANUARY

Mon	Tue	Wed	Thu	Fri	Sat	Sun
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

FEBRUARY

Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

On which day in February of the same year will the new moon **MOST LIKELY** occur?

Ⓐ February 4

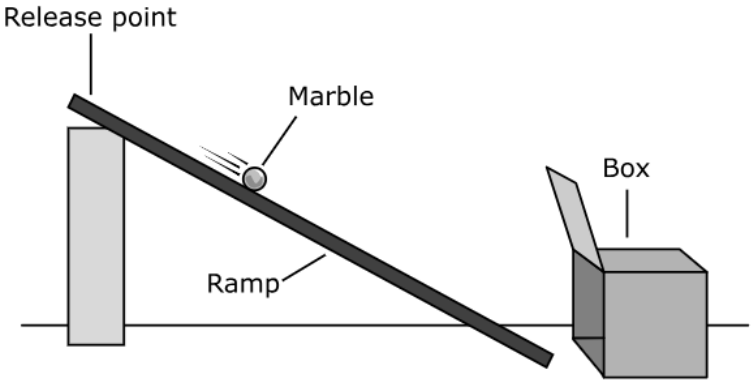
Ⓑ February 11

Ⓒ February 18

Ⓓ February 25

19

A group of students investigates energy and motion. They roll marbles of different masses down a ramp and observe how a box moves when the marbles collide with it.



The students record their observations in the table below.

Marble Investigation

Mass of Marble (grams)	Distance Box Moves (centimeters)
2	15
4	28

Which statement **BEST** describes what the investigation shows?

Ⓐ The amount of energy an object can transfer depends on its shape.

Ⓑ The amount of energy an object can transfer depends on its mass.

Ⓒ An object with a greater mass can move faster than an object with less mass.

Ⓓ The shape of an object is what makes it move faster.

20 A student makes a list of resources that humans use:

- vegetable crops
- rivers
- beef cattle

Which other resource belongs to the same classification as the resources listed by the student?

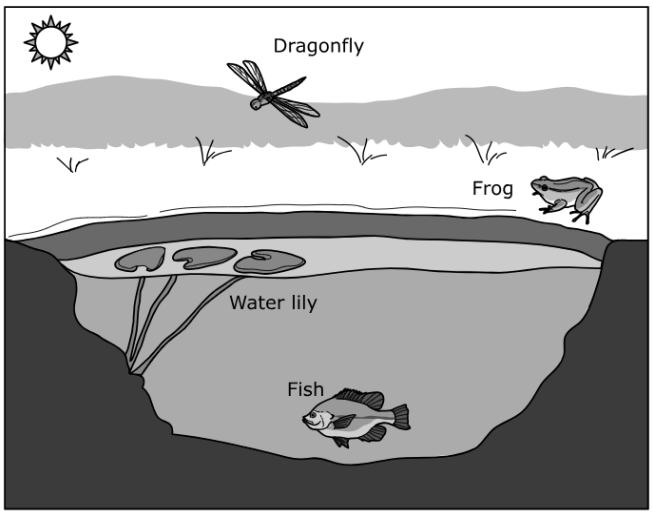
Ⓐ Air, because it is renewable

Ⓑ Oil, because it can be hard to find

Ⓒ Coal, because it is in limited supply

Ⓓ Natural gas, because it cannot be conserved

21



Which of these describes an interaction between the water lily and an abiotic factor?

Ⓐ Water lilies provide a stable place for frogs to rest.

Ⓑ Fish eat predatory insects that feed on water lily leaves.

Ⓒ Nutrients in pond soil help the water lilies grow.

Ⓓ Dragonflies help the water lilies reproduce by moving pollen.

22 The table shows the hoof descriptions for two types of antelope.

Antelope Hoof Characteristics

Addax Antelope	Pronghorn Antelope
	
• Wide, flat hooves	• Small, sharp hooves

Addax antelopes live in deserts. Pronghorn antelopes live in grasslands.

Which statement **BEST** describes how hoof shape helps the antelopes survive in their habitat?

Ⓐ Wide, flat hooves help the addax antelope walk without sinking into sand.

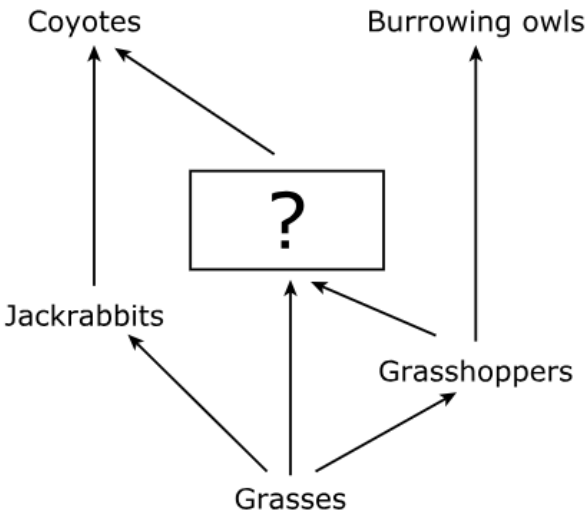
Ⓑ Small, sharp hooves help the pronghorn antelope grip bark when climbing tall trees.

Ⓒ Small, sharp hooves help the pronghorn antelope walk on ice and on snow-covered surfaces.

Ⓓ Wide, flat hooves help the addax antelope wade through rocky streams.

23 This question has two parts. First, answer Part A. Then answer Part B.

A partial prairie food web is shown.



Part A

Which type of organism could possibly complete the flow of energy and matter in this food web?

Ⓐ Rattlesnakes (carnivore)

Ⓑ Mushrooms (decomposer)

Ⓒ Prairie chickens (omnivore)

Ⓓ Pronghorn antelopes (herbivore)

Part B

Which statement explains why the organism in the answer to Part A would correctly complete the food web?

Ⓐ This type of organism receives energy from eating producers.

Ⓑ This type of organism receives energy from eating consumers.

Ⓒ This type of organism receives energy from dead plants and animals.

Ⓓ This type of organism receives energy from eating producers and consumers.

24 What is the last step in the formation of sedimentary rock?

Ⓐ The erosion of pieces of rock

Ⓑ The weathering of rocks

Ⓒ The compaction of small rock pieces

Ⓓ The cementation of rock fragments

25

A student designs an investigation to examine how height affects the splash that water makes when it strikes a surface. The student fills a water dropper with 1 milliliter of water and releases the water over a piece of colored paper. Next the student observes the size of the splash left on the paper. The table shows some of the student's data.

Height of Water Dropper above Paper (cm)	Size of Splash
10	Small
50	Medium
100	Very large

Which reasoning about the relationship between the height of the water dropper and the size of the water splash is **BEST** supported by the student's investigation data?

Write the correct answer on your Answer Document.

A	B	C	D
mass	gravity	force	volume

The change in the height of the dropper over the paper increases the _____ of the water striking the paper, causing the size of the splash to increase.

26 A student sorted objects into two groups, as shown in the table.

Group W	Group X
• Glass ball • Wood block • Rubber band	• Steel paper clip • Copper penny

Which property did the student use to sort the objects into Group W and Group X?

Ⓐ Ability to conduct electricity

Ⓑ Ability to bend

Ⓒ Ability to take the shape of a container

Ⓓ Ability to be attracted to a magnet

Item Position	Rationales	
1	Option D is correct	Closing Switch 1 completes the circuit that will allow both bells to ring and keep Lightbulb 1 lit. Opening Switch 2 breaks the circuit that includes Lightbulb 2, which will cause Lightbulb 2 to turn off.
	Option A is incorrect	Both bells are part of a complete circuit that includes Lightbulb 1. This means both bells will ring, and Lightbulb 1 will light up.
	Option B is incorrect	Both bells and Lightbulb 1 are part of a complete circuit. Opening Switch 2 will not cause Lightbulb 2 to light up.
	Option C is incorrect	Opening Switch 2 opens the circuit that includes Lightbulb 2, and opening the circuit will cause the light to turn off. Bell 1 and Bell 2 are part of a closed circuit and will ring even if Switch 2 is open.

Item Position	Rationales	
2	Option A is correct	Both plants supplement the nutrients available in the soil with nutrients obtained by digesting insects.
	Option B is incorrect	While the pitcher plant can use sunlight to produce food, so can the Venus flytrap. This is therefore not an advantage.
	Option C is incorrect	Neither adaptation increases the plants' ability to photosynthesize sugars in a shady environment, nor is it clear that the adaptations would necessarily increase the plants' ability to compete with other plants for resources.
	Option D is incorrect	These adaptations do not provide an insect-independent method of pollination, nor do they increase the chances of survival in human-disturbed landscapes.

Item Position	Rationales	
3	Option C is correct	In a 24-hour period, Earth turns a full rotation. So in 12 hours, Earth completes half a turn.
	Option A is incorrect	The sun does not move around Earth; Earth rotates on its axis.
	Option B is incorrect	The sun does not stop shining, but when part of Earth's surface is facing away from the sun, that part of Earth experiences darkness.
	Option D is incorrect	Earth does not move around the sun in 12 hours; Earth completes half a rotation on its axis.

Item Position	Rationales	
4	Part A	
	Option C is correct	When light passes from the air into the water droplet, the light rays change direction.
	Option A is incorrect	Absorption occurs when light enters an object but does not come out. A small amount of light is absorbed by the water droplet, but this light does not contribute to the rainbow.
	Option B is incorrect	Light that is reflected bounces off the object. Light that contributes to the rainbow enters the water droplet and comes back out.
	Option D is incorrect	Transmission refers to the passage of light through an object.
	Part B	
	Option A is correct	The different colors of light change direction by different amounts when they enter the water droplet. This is because the different colors of light travel at different speeds in water.
	Option B is incorrect	Merely passing through the water droplet does not create a rainbow. The different light colors must separate, which is the process of refraction.
	Option C is incorrect	To create a rainbow, light must enter the water droplet so that the different colors can change direction.
	Option D is incorrect	Light that is absorbed by (“becomes part of”) the water droplet is not seen by observers.

Item Position	Rationales	
5	Option A is correct	Several decades is long enough for climate data to be recorded.
	Option B is incorrect	The amount of precipitation that falls during a hurricane is considered to be weather data, not climate data.
	Option C is incorrect	Recording wind speeds over a period of one year is the collection of weather data, not climate data.
	Option D is incorrect	Data collected over one season are considered to be weather data, not climate data.

Item Position	Rationales	
6	Option C is correct	Sand and pebbles are more dense than water, so they do not float. Also, neither sand nor pebbles dissolve in water.
	Option A is incorrect	Sand is not soluble, nor does it float in water.
	Option B is incorrect	Neither sand nor pebbles float in water.
	Option D is incorrect	Neither sand nor pebbles dissolve in water.

Item Position	Rationales	
7	Option D is correct	Water would wash the sand through the sieve, but the rocks would remain inside the sieve.
	Option A is incorrect	Rocks are not magnetic, so a magnet will not help separate them from the sand.
	Option B is incorrect	Using heat to boil the mixture would separate out any remaining water, but the sand and rocks would remain together.
	Option C is incorrect	Water would run through the coffee filter, but the sand and rock mixture would remain in the filter together.

Item Position	Rationales	
8	Option C is correct	Deltas are formed when sediment is eroded and carried to a new location by runoff and then deposited where water slows down.
	Option A is incorrect	A piece of ice is not part of the model and is not needed to model delta formation.
	Option B is incorrect	Wind is not being modeled and is not needed to model delta formation.
	Option D is incorrect	Condensation is the process by which water vapor in the air condenses into droplets as it cools. This process is not being modeled and is not part of delta formation.

Item Position	Rationales	
9	Option D is correct	Growing in the tops of trees would expose orchids to more sunlight.
	Option A is incorrect	Growing in the tops of trees would make orchids more accessible to birds, not less.
	Option B is incorrect	Rainfall, not groundwater, provides the water that orchids need.
	Option C is incorrect	Growing in the tops of trees would leave orchids more exposed to the wind.

Item Position	Rationales	
10	2 pts	The student identifies that Sydney is experiencing summer AND that Sydney is experiencing more daylight hours than Chicago is, which indicates that it is summer in Sydney.
	1 pt	The student answers half of the questions correctly.
	0 pts	The response is incorrect or irrelevant.

Item Position	Rationales	
11	Option D is correct	Fossil fuels are typically formed in aquatic or semi-aquatic areas by dead organic matter that is compressed, while sedimentary rock forms from weathering, erosion, deposition, compaction, and cementation of sediment.
	Option A is incorrect	Sedimentary is formed through both weathering and erosion. Fossil fuels are not formed directly through weathering.
	Option B is incorrect	Fossil fuels and sedimentary rock both take millions of years to form.
	Option C is incorrect	Sedimentary rocks are formed through the weathering, erosion, deposition, compaction, and cementation of sediment. Fossil fuels are formed through the compression of decaying organisms.

Item Position	Rationales	
12	Option C is correct	The masses of both the water and the drink mix maintain their value, making the total mass of the solution greater.
	Option A is incorrect	The mass of the water does not decrease; it will stay the same even when the red drink mix is added.
	Option B is incorrect	Although the red drink mix crystals will no longer be visible, the mass will be conserved in the solution.
	Option D is incorrect	The masses of both the water and the red drink mix will be conserved, and the final solution will contain 100 grams of water and 10 grams of red drink mix.

Item Position	Rationales	
13	2 pts	The student identifies that fast-moving water creates a V-shaped canyon. The slow-moving glacier creates a U-shaped valley. The river water changing from fast to slow aids in the creation of a delta, and the sand dune is created by steady, low-speed winds.
	1 pt	The student answers half or more than half of the questions correctly.
	0 pts	The response is incorrect or irrelevant.

Item Position	Rationales	
14	Option D is correct	Lightbulb 1 would stop glowing, and Lightbulb 2 would continue to glow, because Lightbulb 1 would become part of an open circuit, and Lightbulb 2 would continue to be part of a closed circuit.
	Option A is incorrect	Lightbulb 2 would continue to glow because it is still part of a closed circuit.
	Option B is incorrect	Lightbulb 1 would stop glowing because it would no longer be part of a closed circuit.
	Option C is incorrect	Lightbulb 1 would stop glowing because it would no longer be part of a closed circuit, while Lightbulb 2 would continue to glow because it would still be part of a closed circuit.

Item Position	Rationales	
15	Option C is correct	Condensation happens when the water vapor is cooled. In the model, the cooling process is represented by ice cubes.
	Option A is incorrect	Cooling water vapors does not represent the water flowing back to the ocean.
	Option B is incorrect	The model would need to be placed in below-freezing temperatures to model freezing.
	Option D is incorrect	Heat would need to be added to model evaporation.

Item Position	Rationales	
16	Option D is correct	The length and size of a shadow during the day is a direct result of Earth rotating on its axis.
	Option A is incorrect	It takes approximately one month (29.5 days) for the moon to orbit Earth, which is not a result of Earth rotating on its axis.
	Option B is incorrect	The sun appears to move in the sky because Earth rotates on its axis; however, the sun appears to move from east to west, not from west to east.
	Option C is incorrect	Earth's rotation factors into why a location would experience a high tide, but it is the moon's gravitational pull that causes high tide in some locations at night. High tides can also happen at other times during the day.

Item Position	Rationales	
17	1 pt	The students are able to see the bright-colored shirt because the shirt **reflects** light.
	0 pts	The response is incorrect or irrelevant.

Item Position	Rationales	
18	Option A is correct	February 4 is about 29.5 days from the new moon in January.
	Option B is incorrect	February 11 would be too late for the new moon, as the pattern repeats every 29.5 days.
	Option C is incorrect	February 18 would be closer to a full moon than to a new moon.
	Option D is incorrect	February 25 would be closer to a third-quarter moon than to a new moon.

Item Position	Rationales	
19	Option B is correct	The greater the mass of the object, the more energy it has available to transfer to other objects.
	Option A is incorrect	In both cases, the marbles have the same shape.
	Option C is incorrect	Speed affects energy transfer, but the marble speeds are not measured in this investigation.
	Option D is incorrect	In this investigation, the marbles are all the same shape, and speeds were not measured.

Item Position	Rationales	
20	Option A is correct	The listed resources are renewable, and air is a renewable resource.
	Option B is incorrect	The listed resources are not hard to find.
	Option C is incorrect	The listed resources are not in limited supply, as they can be replenished over a short time.
	Option D is incorrect	The listed resources can be conserved or replenished.

Item Position	Rationales	
21	Option C is correct	Nutrients in the soil are abiotic factors that are important for a plant's survival.
	Option A is incorrect	Frogs are a biotic factor.
	Option B is incorrect	Fish and insects are both biotic factors.
	Option D is incorrect	Dragonflies and pollen are both biotic factors.

Item Position	Rationales	
22	Option A is correct	Wide, flat hooves help the addax antelope walk on the sands of the desert.
	Option B is incorrect	Grasslands do not have many tall trees.
	Option C is incorrect	Grasslands are not icy habitats.
	Option D is incorrect	Deserts do not have many rocky streams.

Item Position	Rationales	
23	Part A	
	Option C is correct	The missing organism eats herbivores (grasshoppers) and producers (grasses), so the missing organism must be the prairie chicken, which is an omnivore.
	Option A is incorrect	Because it eats grasses, the missing organism is not strictly a carnivore.
	Option B is incorrect	The missing organism is not a mushroom because mushrooms are decomposers that get their energy from decomposing plants and animal matter.
	Option D is incorrect	The missing organism is not a herbivore because the missing organism eats grasshoppers (animals) and grasses (plants).
	Part B	
	Option D is correct	The missing organism eats both producers (grasses) and consumers (grasshoppers).
	Option A is incorrect	The missing organism also eats consumers (grasshoppers).
	Option B is incorrect	The missing organism also eats producers (grasses).
	Option C is incorrect	The food web does not indicate that any of the organisms are dead; therefore, the missing organism is not receiving energy from dead organisms.

Item Position	Rationales	
24	Option D is correct	Cementation of rock fragments is the last step in the process of sedimentary rock formation.
	Option A is incorrect	Erosion of pieces of rock is not the last step in the process of sedimentary rock formation. Erosion is the transportation of sediment by water, wind, or glacier ice away from the rock from which it was weathered.
	Option B is incorrect	Weathering of rock begins the process of sedimentary rock formation by breaking down existing rocks to create sediments.
	Option C is incorrect	Compaction of small pieces of rock is not the last step in the process of sedimentary rock formation. Compaction occurs when sediment builds up in layers, and the weight of the top layers presses the sediment particles in the lower layers closer together.

Item Position	Rationales	
25	1 pt	The change in the height of the dropper over the paper increases the **force** of the water striking the paper, causing the size of the splash to increase.
	0 pts	The response is incorrect or irrelevant.

Item Position	Rationales	
26	Option A is correct	All of the objects in Group X can conduct electricity, but none of the objects in Group W can.
	Option B is incorrect	The rubber band is flexible, but the other objects in Group W are not.
	Option C is incorrect	None of the objects will take the shape of a container, since none are liquids.
	Option D is incorrect	The steel paper clip will be attracted to a magnet, but the copper penny will not.