

Colorado Measures of Academic Success



Grade 8



Paper Practice Resource for Students

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Paper Practice Resource for Students

The Colorado Measures of Academic Success (CMAS) is Colorado's standardsbased assessment program designed to measure the Colorado Academic Standards (CAS) in the content areas of science, social studies, English language arts, and mathematics. The sample items included in this resource provide students with an opportunity to become familiar with the format of test items that appear in the paper-based test books.

While the use of the sample items is not required, it is strongly encouraged to help ensure students are familiar with the types of items they may encounter while taking the paper-based test.

The sample item sets in the CMAS Practice Resources are not intended to be representative of a complete unit or test, nor are they intended to cover all assessed content or item types. To view assessment frameworks, high level blueprints, scoring rubrics, evidence statements and standards for the CMAS assessments, visit: https://www.cde.state.co.us/assessment/cmas_testdesign.

Item Types:

Selected Response Items

Selected response items are multiple choice questions. To respond, the student indicates their response by filling in the circle(s) next to their answer choice.



Constructed Response Items

Constructed response items are questions or prompts that require an independent, written response. To respond, the student writes his or her answer in the response box in the test book.

Converted Online Technology-Enhanced Item Types

Online technology-enhanced items converted to the paper testing format may ask students to:

- Circle the correct answer
- Complete a table with checkmarks, Xs, or letters from a list of answer choices
- Fill in the blank
- Draw lines from boxes to correct answers
- Complete a bar graph or histogram

Clusters

Clusters include groups of items that relate to a scientific topic. The information needed to respond appears before the associated items.

ITEM SET 1

1.	Two students notice how quickly their cups of hot chocolate cool off. The students ask an adult to boil water. The water is 100 degrees Celsius (°C) when the adult pours it into a cup. The air temperature in the room is 20°C. After 10 minutes, the students note that the water temperature is 30°C. Explain the students' observations. Circle one correct response from each box to complete the sentence.				f. The e in er e.
	Over time, the		energy of the water		
		chemical		stays the same	
		thermal		decreases	
				increases	
	because energy	/ flows from	warmer to cooler cooler to warmer	matter.	

TURN THE PAGE AND CONTINUE WORKING

2. Rats were accidentally introduced onto an island in the Pacific Ocean in the 1940s. The rat population grew rapidly as the rats fed on eggs and small animals, as well as seeds and tree seedlings. In 2011, wildlife workers removed all rats from the island. The graphs show data for two tree species, before and after the removal of the rats.



Native Tree Species

How can these data **best** be evaluated to compare solutions to the problems faced by native tree species?

- Putting both graphs on the same scale would show that removing rats has aided population growth of native trees more than of non-native trees.
- Comparing the data and graphs shows that removing rats has had a negative effect on small animals because rat removal decreased food sources.
- © Putting both graphs on the same scale would show that controlling non-native tree population growth is needed in addition to rat removal.
- Comparing the data and graphs shows that controlling the number of small animals is needed in addition to rat removal.

3. Rivers that flow along crooked paths sometimes form extreme U-shaped bends called meanders. Through erosion and deposition of river soil and silt, these meanders can become oxbow lakes, as shown in the diagram.



Oxbow Lake Formation

Explain the processes that change river paths to form oxbow lakes. Your response should include an explanation of:

- how erosion and deposition can change the path of the river to form the oxbow lake
- how flooding could change the timeline of an oxbow lake's formation

Directions: Use the information to answer questions 4 through 8.

Part 1

The Nile River floods every year. Most of the river passes through the Sahara desert, where there is little rain, resulting in seasonal periods of drought and flooding. One section of the river, called the Blue Nile, gets water from heavy summer rains that cause flooding in the area. This water flows north and causes floods along the rest of the river.

When a dam is built on a river, a large body of water called a reservoir forms. Reservoirs can hold a lot of water to prevent floods, but they can also supply water in times of drought. Dams significantly change the way water and sediment flow down a river.

Dams control the flow of water down a river and can be used to generate electricity. The Aswan High Dam in Egypt was completed in 1970. In 2011, work began on the Grand Ethiopian Renaissance Dam.



Figure 1: Sections of the Nile River

Part 2

Flooding along the Nile River depends strongly on rainfall in Ethiopia. This rainfall varies from year to year and from month to month.



Figure 2: Yearly Rainfall in Ethiopia, 1980–2015





- **4.** The location of the Grand Ethiopian Renaissance Dam is shown in Figure 1. Operation of this dam may change geologic processes in the area. Which change will **most likely** occur as a result of the operation of the dam?
 - Water released from the dam will flood the area to the north with water and sediment.
 - B The area to the south of the dam that holds the water will contain more sediment.
 - © Water released from the dam will cause erosion of land to the south.
 - Eroded material from south of the dam will be carried to the north.
- **5.** Based on the data in Part 2, during which months should people living along the Blue Nile expect potential flooding events?
 - October and November
 - January and February
 - July and August
 - April and May

6. The table shows population data for Egypt, Ethiopia, and Sudan.

Country	Population in 2020 (millions)	Projected Population in 2060 (millions)
Egypt	104	190
Ethiopia	108	225
Sudan	46	104

Population Data

Based on the information provided and the Population Data table, select the statement that **best** supports the claim that these changes in population will negatively affect ecosystems in Egypt.

- More flooding and soil erosion will occur as the volume of water in the Nile River increases.
- B Less water will flow through the Nile River in winter months than in summer months.
- © The volume of water in the Nile River will increase as humans use more water.
- Soil will become less fertile as the Nile River transports less sediment.

- **7.** Based on the data in Part 2, in which month and year would a dam with a large reservoir **most likely** benefit Ethiopian water supply?
 - November 1985
 - November 2003
 - August 1992
 - August 2010



Directions: Use the information to answer questions 9 through 13.

The train cars of magnetic toy trains have a magnet on each end. Students notice that if a train car is placed with its rear magnet facing the rear magnet of the engine, the magnets push away from each other. Not all train cars push away the engine the same distance. The students test the strength of the different magnets using multiple investigations. The images shown are not to scale with your ruler.

Part 1

The students follow this procedure.

- 1. Place Car K at the end of a ruler, and put the train engine next to it so that the magnets are in contact.
- 2. Release the engine and observe the results.
- 3. In a data table, record the distance the engine moved.
- 4. Repeat steps 2 and 3 for Car K at a distance of 2 millimeters (mm) from the engine, and then for Car K at a starting distance of 5 mm from the engine.
- 5. Repeat steps 1–4 for Car O and Car T.



5 mm



5 mm



In contact



2 mm



5 mm

Con	Distance (mm) Engine Moved When Released				
Car	In Contact	2 mm	5 mm		
К	10.6	7.8	3.6		
0	12.8	11.7	4.1		
Т	9.0	6.0	3.5		

Part 2

The students notice that if the magnet at the end of a train car is brought close to a paper plate with iron filings, the filings move around so that there is a circular pattern that forms directly above the magnet. The students investigate the size of the iron-filing circle each train car magnet forms.

The students follow this procedure.

- 1. Hold a paper plate covered with iron filings over Car K, and bring the plate down so that the plate comes in contact with the magnet.
- 2. Repeat Step 1 for Car O and for Car T.
- 3. Compare the three circular patterns.





10. Use the investigation in Part 1 to ask testable questions.				
Circle one correct response in each box to complete the sentences.				
How does the				
[distance between the train cars			
1	magnet size			
	color of train car			
affect the distance the engine travels?				
Do different	have the same			
e	ends of a train car			
tr	rain car magnets			
magnetic force?	?			

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11. Which graph shows the correct comparison of the kinetic energy that resulted from each starting position during the train car trials in Part 1?





12. Write a question about the strength of the train car magnets that is answered by the iron filings investigation in Part 2. Your response should include:

a question about the strength of the magnet as it relates to the iron filings investigation
an explanation of how the results in Part 2 answer the question

13.	Use the investigations in Part 1 and Part 2 to consider whether the two investigations are designed well enough to show that fields exist and exert forces even when the objects are not in contact. Then choose one investigation and explain why it is designed well enough to show evidence about fields that exert forces. Your response should include:
	 an explanation of how the design of the investigation tests for the presence of a magnetic field
	 evidence from the investigation that shows the magnetic field produces a force at a distance

This is the end of Item Set 1.

ITEM SET 2

1. The skunk cabbage is a plant that usually grows in wet areas.

Characteristics of this plant include:

- blooms in early spring
- produces heat in flower buds to protect against freezing temperatures
- smells like rotting meat
- has leaves that decompose quickly

Certain characteristics of the skunk cabbage increase its chances for successful reproduction. Which statement **best** identifies those characteristics?

- The leaves decompose quickly so that there is less plant matter on the ground.
- B Deer and other herbivores eat the flowers and leaves in early spring.
- © The smell of the plant attracts insects that can pollinate the flowers.
- The flower structure provides a hiding place for spiders.

- 2. When a student bites into a slice of lemon, muscles in the student's face begin to contract. The student learns that the muscles contract after acid in the lemon activates sensory receptors on the tongue. A week later, the student sees a lemon and notices that the same face muscles contract, even though the student did not bite into the lemon. Explain how a similar response occurs when the student bites into the lemon slice and when the student sees a lemon. Your response should include an explanation of:
 - how information is transferred as the student bites into the lemon slice
 - why the muscles in the student's face contract after seeing a lemon

Directions: Use the information to answer questions 3 through 7.

Part 1

A seismograph is used to measure seismic waves traveling through Earth. Seismographs are difficult to use in deep water, so scientists have discovered how to use fiber-optic cables along the ocean floor as earthquake sensors.

A laser produces a light signal that moves through a central part of the cable, which is made of pure glass. A different type of glass, called cladding, surrounds the pure glass and keeps the light signal moving through the center, as shown in Figure 1.

Figure 1: Transmission End of Cable



When a seismic wave disturbs the cable, the light is distorted and scattered, as shown in Figure 2 and Figure 3. By comparing how the laser light signal changes as it moves through the cable, the scientists can determine the approximate location and identify the magnitude of the earthquake.

Figure 2: Cable along the Ocean Floor



Figure 3: Receiving End of Cable



Part 2

Seismic waves are recorded by a network of seismographs. By comparing the arrival times of the seismic waves at the different seismographs, scientists can identify the magnitude and location of the earthquake's epicenter.

Figure 4 shows the epicenter of an earthquake and two seismograph locations that record the seismic waves from that earthquake. Seismograph 1 records a maximum amplitude of 75 microns, while a maximum amplitude of 37 microns is recorded at Seismograph 2.

Figure 4: Earthquake Epicenter and Seismograph Locations



Figure 5 shows an analog seismograph. Ground movement causes the base of the seismograph to move while a pen attached to a weight remains still. A rotating paper drum beneath the pen captures the relative motion between the pen and the base.
Figure 5: Analog Seismograph



Figure 6 shows the output of the analog seismograph, called a seismogram. Lines with small disturbances result from strong winds or nearby cars vibrating the ground. Lines with much larger disturbances are caused by stronger ground movement or seismic waves.



Figure 6: Analog Seismogram

Figure 7 shows a digital seismogram, captured with electronic equipment and displayed by a computer. The displacement is how far the ground around the seismogram is moved by the seismic wave. A micron is equal to 0.001 millimeters.



Figure 7: Digital Seismogram

3.	Based on the information in Part 2, identify the type of seismogram, analog or digital, that is more reliable and explain why.			
	Circle one correct response from each box to complete the sentence.			
	The seismogram is easier to store, move, and compare			
	analog digital			
	because it exists as			
	electronically sampled data			
	a fixed physical structure			

4.	Based on the seismogram in Figure 7, compare the energy of the wave when it peaks at 47 seconds to the energy of the wave when it peaks at 36 seconds.			
	Circle one correct response from ea	ch box to complete the sentence.		
	The energy at 47 seconds will be	as great because		
		four times		
		twice		
	the is	as great.		
	amplitude four times			
	wavelength twice			

- **5.** Figure 5 shows that a spring is included between the weight and the arm of the seismograph, which allows the pen to remain stationary as the drum moves beneath it. Which property of waves **best** explains why this spring is included?
 - Waves can be absorbed, and the spring stretches so that the vibrations move everything but the weight and pen.
 - B Waves can be reflected, and the spring reverses vibrations from the arm before they reach the pen.
 - © Waves can be amplified, and the spring increases the vibrations as they reach the weight and pen.
 - Waves can be transmitted, and the spring transfers the wave energy from the weight to the pen.
- **6.** Some seismic waves are pressure waves. Pressure waves can cause the density of the substance they are passing through to change. Based on this information and the information in Part 1, which statement **best** explains why light from the laser is distorted and scattered when a seismic wave disturbs the cable?
 - The change in density of the glass changes the way light is transmitted through it.
 - Eight responds to the change in pressure by traveling in the opposite direction.
 - C The change in density of the cable changes the amplitude of the light.
 - Description Light responds to the change in pressure by changing frequencies.

7. Explain why the two seismographs in Figure 4 would record different amplitudes for the earthquake. Your response should include an explanation of:

why distance from the epicenter affects the amplitude of the seismic waves
which seismograph would record a higher amplitude and how that amplitude is related to the energy in the wave

Directions: Use the information to answer questions 8 through 13.

Two students visit a nearby park and notice more and more algae covering a pond with every visit. The students wonder what is causing the growth of algae. They observe a worker applying fertilizer to plants near the pond and wonder whether the fertilizer causes the growth of algae.

Part 1

The students look at three pictures of the pond at different times of the year: late August, early September, and late September.







The students investigate how different amounts of fertilizer affect pond water. They add the same volume of pond water to three containers. They do not add any fertilizer to the first container. They add 2 milliliters (mL) of fertilizer to the second container and 4 mL of fertilizer to the third container. Then, they set all three containers on a windowsill for 14 days.

The pictures show the setup and results for three trials in the students' investigation.



Pond Water with 0 mL of Fertilizer Added





Comparison of All Trials



Growth of Algae in All Trials

The students create a model of the pond showing the ecosystem in late August and late September.



Underwater Ecosystem

Late August



Late September



- **8.** A student claims that less algae would grow in the pond if people living near the pond stopped using fertilizer. Based on the information in Part 2, which statement **best** provides evidence to support the student's claim?
 - The growth of algae stopped after eight days in the sample with 2 mL of fertilizer.
 - B The sample with 0 mL of fertilizer showed an increase in algae after eight days.
 - © The smallest amount of algae was found in the sample with the darkest water.
 - The samples with less fertilizer resulted in less growth of algae.
- **9.** Based on the information, which statement **best** describes how the aquatic plants were affected by the algae bloom?
 - Photosynthesis by the aquatic plants increased because the algae on the surface allowed sunlight to pass through the water.
 - Respiration by the aquatic plants increased because the algae on the surface allowed sunlight to pass through the water.
 - © Photosynthesis by the underwater aquatic plants decreased because the algae on the surface blocked the sunlight.
 - Respiration by the aquatic plants decreased because the algae on the surface blocked the sunlight.

10. Based on the information in parts 2 and 3, determine how each component of the pond ecosystem changed between late August and late September.

Place a check mark (\checkmark) to select an answer in each row. Select **one** box per row.

Component	Increased	Decreased	Remained the Same
amount of carbon dioxide released by the fish			
amount of oxygen released by the algae			
amount of energy stored in sugars by the plants			

11. Based on the information in Part 2, explain why the water samples were placed next to the window. Your response should include an explanation of:

why the water samples were placed next to the window
how the water samples would look different if placed in a dark room throughout the investigation

12. Based on the information, explain how resource availability affects populations in the pond between late August and late September. Your response should include an explanation of how during each of the two time periods:
the plant population is affected by resource availability
the fish population is affected by resource availability

13. Based on the information, explain how populations in the pond could change during the following winter and spring. Your response should include an explanation of:
 how the amount of sunlight reaching the pond during the winter could change the algae population
 how this change in the algae population could affect the plant population during the spring

14.	A student le others. The the year 20	earns that to student ren 20.	otal lunar e nembers tl	eclipses of hat there	e was no	some o total	years lunar	and not ir eclipse in	1
	, Ci i		<i>c</i>						

Circle one correct response from each box to complete the sentences.

During 2020, ______ was never positioned directly between the

the Moon the Sun Earth

two other celestial bodies. As a result, the shadow

of _____.

Earth never covered the Moon

the Moon never fell on Earth

This is the end of Item Set 2.

ITEM SET 3

- **1.** Curtains in theaters prevent sound waves from being reflected as echoes. Which model best explains why curtains prevent echoes?
 - A ball thrown toward a surface will come in contact faster with a soft surface than with a hard surface.
 - B A ball thrown at a surface will hit with a greater force on a soft surface than on a hard surface.
 - © A ball rolled across a surface will roll more quickly on a hard surface than on a soft surface.
 - A ball dropped on a surface will bounce more on a hard surface than on a soft surface.

Directions: Use the information to answer questions 2 through 6.

Part 1

A student is curious about a toy in the classroom. The toy is a small globe that floats in place over a special base. The globe does not rise, fall, or move from side to side. The student wonders what forces are needed to cause this effect.



Figure 1: Toy Globe

The student investigates the forces that make the toy globe float. The student uses ring magnets and places a wooden rod through the hole in the magnets. The student drops different numbers of ring magnets down the rod from different heights, in centimeters (cm). The magnets fall close to another set of magnets at the bottom of the rod. Then the bottom magnets push the falling magnets back up.







The table shows the data the student collects.

Trial	Magnota Dronned	Height (cm)			
Iridi	Magnets Dropped	Start	Lowest	Final	
1	1	14.0	4.4	6.6	
2	1	11.9	4.9	6.2	
3	1	9.8	5.5	6.5	
4	2	13.9	3.8	6.1	
5	2	11.0	4.6	6.1	
6	2	10.0	4.7	6.4	
7	3	13.8	3.5	5.9	
8	3	12.1	3.9	5.9	
9	3	10.1	4.6	5.9	

2.	In the scenario described in Part 1, the student pushes down on the globe and lets it go. Then the globe returns to its original stable position.				
	Circle o	ne correct r	esponse in each b	ox to complete	the sentence.
	After the globe is let go, it will return to a stable position when				position when
	the _				
		frictional		electrical	
		magnetic		gravitational	

3.	 The student completed the ring magnet investigation to help explain the interaction between the two sets of magnets described in Part 2. 				
	Circle one correct	response in eacl	h box to c	omplete the sentenc	es.
	The investigation v	vas designed to s	show that		_ exist
				electrical currents]
				magnetic fields	
	between the upper	r and lower sets	of magnet	s. The results provid	le
	evidence that the	magnets exert fo	orces on ea	ach other because th	ne
	upper magnet set		the lower	set when it is dropp	oed.
		does not touch			
		collides with			

The data from the investigation in Part 2 show that the final height of three magnets dropped is lower than when one magnet or two magnets are dropped.		
Circle one correct response from each box to complete the sentences.		
The purpose of the investigation is to show that even when downward		
force is increased, the magnets continue to		
pull each other together		
push each other away		
This shows that there is a field coming from		
the bottom set of magnets		
the top set of magnets		
both sets of magnets		

5. The sets of magnets described in the investigation in Part 2 demonstrate two kinds of potential energy, magnetic and gravitational. Based on the investigation, show where each kind of potential energy is greatest. The north (N) pole and south (S) pole of each magnet set are specified.

Draw an X in the box that shows the location of the greatest amount of each kind of potential energy. Draw only one X in the location for the greatest amount of magnetic potential energy, and draw another X in the location for the greatest amount of gravitational potential energy. Only one X should be drawn for each type of potential energy.



6. In the scenario described in Part 1, the student plans to change the setup by adding mass to make the globe heavier. Explain what effect the additional mass will have on the globe. Your response should include:

an explanation of the changed position of the heavier globe
a description of two different forces acting on the heavier globe

Directions: Use the information to answer questions 7 through 12.

In 1977, NASA launched a robotic spacecraft from Earth called Voyager 2. This spacecraft was sent to gather data on Jupiter, Saturn, Uranus, and Neptune, and those planets' moons. Voyager 2's trip was timed to take place when Jupiter, Saturn, Uranus, and Neptune were positioned near each other in their orbits, an arrangement that only occurs every 176 years.

Solar system distances are measured in astronomical units (AU). One AU is the average distance between Earth and the Sun, about 150 million kilometers.

The planets Mercury, Venus, and Mars are not included in the drawings of this model.

Part 1

These drawings show the path that Voyager 2 took through the solar system and the movements of the planets as the spacecraft traveled around the Sun.











Observe the number of revolutions around the Sun each planet made during the time Voyager 2 traveled through our solar system. The planets closer to Earth orbit more quickly around the Sun than the planets farther away do.

Planet	Number of Revolutions around the Sun
Earth	12
Jupiter	1
Saturn	$\frac{1}{2}$
Uranus	$\frac{1}{7}$
Neptune	$\frac{1}{13}$

Planetary Revolutions: 1977–1989

This drawing shows the path Voyager 2 took through the solar system.



The images show information sent back to Earth by Voyager 2 as it encountered Jupiter.



The images show information sent back to Earth by Voyager 2 as it encountered Saturn, Uranus, and Neptune.





7. A student wants to demonstrate the movement of the planets shown in Part 1.

The student will use one of two different models. On the wheel, the spokes are permanently attached to the center, and the wheel stays round. The person spinning the ball on the string has to continue applying force to the string and ball to keep the ball moving in a circular path.



Circle one correct response in each box to complete the sentence.

A planet stays in orbit because the

Sun's _____ acts like a



rotational motion

spoke that is used to spin a wheel

string that is used to swing a ball

in a circle.

8. Use the planetary movement shown in Part 1, the table in Part 2, and the Moons of Jupiter diagram to answer this question.


9.	A student wants to compare the distance between orbital paths of each planet shown using the scale along the bottom in Part 3.		
	Circle one correct response in each box to complete the sentences.		
	The distance between the orbital paths of Earth and		
	Jupiter		
	Neptune		
	Saturn		
	Uranus		
	is almost the same as the distance between the orbital paths of		
	Uranus and Neptune		
	Saturn and Uranus		
	Jupiter and Saturn		
	This shows the orbital radius increases by a		
	greater and greater		
	constant		
	amount for each of the outer planets.		

- **10.** Explain how the planetary motion shown in the model in Part 1 and described in the table in Part 2 can be used to describe the effects of gravity on the motions of the solar system, and why designers had to consider the entire system of planets when planning Voyager 2's path. Your response should include explanations of:
 - how the model demonstrates the effect of gravity on planetary motions over time given the planets' locations in the solar system
 - why understanding planetary motion was needed to plan Voyager 2's path

11. Study the Moons of Jupiter diagram, which shows Jupiter and the orbital paths of its moons.



Compare the Sun and planets system in Part 3 with the Jupiter and moons system shown in the diagram. Your response should include:

- a comparison of how the two systems are similar
- an explanation of the role of gravity in both systems

- **12.** Use the AU scale across the bottom of Part 3 to compare the relative distances of the different planets' orbits from one another. With this information, identify three planets where the distance between the orbits of the first two planets is almost the same distance between the orbits of the second and third planets. Your response should include:
 - the distances between orbits of the three particular planets from Part 3
 - an explanation of how evidence from Part 3 supports your selection of those planets

Directions: Use the information to answer questions 13 through 17.

Part 1

The ecosystems of western Canada include mountainous terrain covered in forests that usually receive snowfall five to eight months a year. Two animals that live in these forests are the Canada lynx and the snowshoe hare.

Information about Canada	Lynx and Snowshoe H	ares
---------------------------------	---------------------	------

Animal	Main Food	Other Food	Adaptations for Cold
	Source	Sources	Weather Conditions
Canada lynx	snowshoe	small mammals,	large, furry paws to
	hares	birds, caribou	walk on snow
snowshoe hare	plants with soft stems, grasses	tree seedlings, leaves from shrubs	fur turns white in winter

Part 2

Scientists gathered data about the populations of Canada lynx and snowshoe hares. These graphs show how populations of lynx and hares changed over time.



Figure 1: Lynx Population over Time





Figure 3: Lynx and Hare Populations over Time



Part 3

These maps show the ranges of Canada lynx and snowshoe hares.



Figure 4: Range of Canada Lynx



Figure 5: Range of Snowshoe Hares

13. A student creates a food web for the organisms listed in the table from Part 1. The student learns that caribou eat shrubs, and birds eat grass seeds.

Based on this information, write the letters for the organisms in the boxes to create a model that shows how matter and energy move through this forest ecosystem. Each letter may be used once.



14. Based on the information in Part 2, which year in the study was **most likely** associated with a decrease in available energy from plants?

- A Year 9
- B Year 15
- © Year 27
- Pear 45

- **15.** Based on the information in Part 1 and Part 2, which statement **most likely** explains the conditions between Year 15 and Year 20?
 - A decrease in caribou population in Year 17 led to a decrease in the Canada lynx population and an increase in the snowshoe hare population in Year 20.
 - A disease slowed the population growth of Canada lynx in Year 17, but the disease did not affect the snowshoe hare population in that same year.
 - © A new predator of snowshoe hares migrated to the area in Year 17, which led to an increase in the Canada lynx population in Year 20.
 - A severe drought in Year 17 caused a sharp reduction in both the Canada lynx population and the snowshoe hare population.

16.	The maps in Part 3 show the ranges for the Canada lynx and the snowshoe hare. The scientists collected data on sightings of these animals during the study. They observed that the Canada lynx traveled outside their normal range at certain times.		
	Circle one corre	ect response in each box to complete the sentence.	
	Based on the i	nformation in Part 1 and Part 2, the most likely	
	year during th	e study when Canada lynx were observed outside	
	their range is		
		Year 5	
		Year 15	
		Year 30	
		Year 35	
because the main food source for the Canada lynx was			
		during this year.	
	more abunda	nt	
	less abundant		
	stable		

17. A disease that affects snowshoe hares may also have an effect on the ecosystem. Based on the information in Part 1, explain how a disease affecting the snowshoe hare population would affect the overall ecosystem. Your response should include:
 how the disease would cause a decrease in population of some organisms in the ecosystem
 how the disease would cause an increase in population of other organisms in the ecosystem



How does energy from the Sun affect this cycle?

- It causes heating of water that results in weathering and erosion.
- It causes heating of rocks that results in metamorphism.
- © It causes heating of Earth that results in melting.
- It causes heating of the air that results in uplift.

This is the end of Item Set 3.