

Kentucky Summative Assessments



Grade 4 Science Released Items 2026



SC041623_00

Mark and his parents spent the weekend camping near the lake. During the night, Mark woke up to a loud crashing sound. He unzipped his tent and saw the back of what appeared to be a black bear running away from the family's campsite.

Mom asks Mark, "What was that noise?" Mark responds, "I think it was a black bear, but he ran off as I was unzipping the tent. I was being really quiet. I don't know how he knew I was awake, because his back was to me."

Mom explains that animals receive different types of information through different structures on their body such as eyes, ears, and mouth. Animals then process the information in their brain and respond to it in different ways.

1

SC041623_01b_3

Which statement **best** explains how the bear used its sense of hearing to detect and process that Mark was nearby?

- A** The bear's ears send signals to its nose so it can smell humans.
- B** The bear's ears send signals to its brain so that it can hear a quiet place to hide.
- C** The bear's ears send signals to its brain so that the bear can decide how to respond.
- D** The bear's ears send signals to its muscles so that the bear can run away from humans.



Released Item Performance

Kentucky Summative Assessments

Spring 2026

Grade 4

Science

Item: SC041623_01b
Book Question Number: 1

Standard: 4-LS1-2

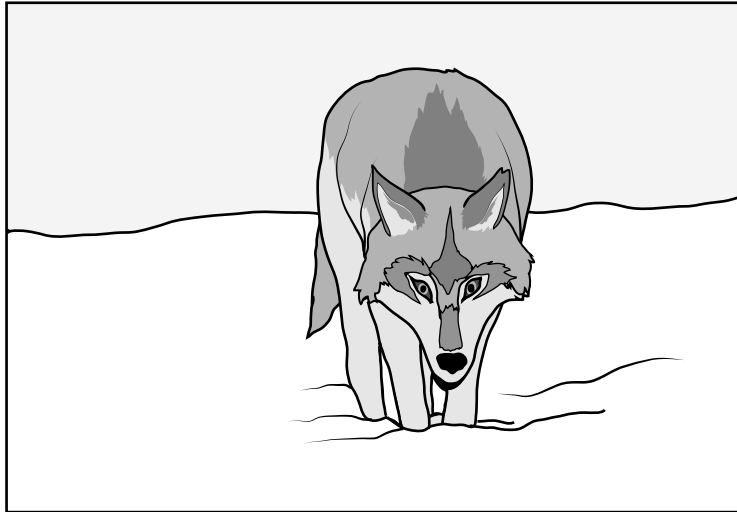
Item Type: MC
Key: C

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	49,374	59%	0.59	13%	14%	59%	14%
Gender							
Female	24,221	58%	0.58	13%	14%	58%	15%
Male	25,152	60%	0.60	14%	13%	60%	14%
Ethnicity							
African American	5,124	46%	0.46	19%	19%	46%	16%
American Indian or Alaska Native	68	54%	0.54	19%	15%	54%	12%
Asian	1,096	63%	0.63	13%	10%	63%	14%
Hispanic or Latino	5,201	50%	0.50	17%	17%	50%	16%
Native Hawaiian or Pacific Islander	118	63%	0.63	8%	17%	63%	12%
White (non-Hispanic)	34,835	62%	0.62	12%	12%	62%	14%
Two or more races	2,931	58%	0.58	14%	14%	58%	14%
Migrant							
Migrant	271	45%	0.45	20%	18%	45%	16%
English Learner							
English Learner	4,579	44%	0.44	19%	20%	44%	18%
Economically Disadvantaged							
Economically Disadvantaged	31,036	54%	0.54	15%	16%	54%	15%
Students with Disabilities							
Students with Disabilities	8,702	47%	0.47	16%	17%	47%	20%



SC041623_00a

The next morning, Mark and his parents took a hike. In the distance, Mark saw a wolf hunting a rabbit. Mark watched as the wolf crept up and pounced on the rabbit.



Mark asked, “What was happening inside the wolf’s body when it saw the rabbit?”

Dad replied, “An animal can respond to stimuli such as seeing a rabbit because its sense organs—eyes, ears, nose, mouth, and paws—work closely with its brain.”

2

SC041623_02_4

What is the one **most likely** function of the brain when messages are received from the sense organs?

- A** Sends the message to the sense organ to be interpreted
- B** Carries messages to the ears from the brain, enabling the body to respond
- C** Assists the skin in detecting pressure, causing the body temperature to change
- D** Interprets the message and sends the message to the muscles, where the message tells the muscles how to respond



Released Item Performance

Kentucky Summative Assessments

Spring 2026

Grade 4

Science

Item: SC041623_02

Book Question Number: 2

Standard: 4-LS1-2, 4-PS4-2

Item Type: MC

Key: D

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	49,379	37%	0.37	13%	40%	9%	37%
Gender							
Female	24,223	37%	0.37	13%	41%	9%	37%
Male	25,155	38%	0.38	13%	39%	10%	38%
Ethnicity							
African American	5,126	30%	0.30	14%	41%	15%	30%
American Indian or Alaska Native	68	37%	0.37	18%	38%	7%	37%
Asian	1,096	40%	0.40	12%	42%	6%	40%
Hispanic or Latino	5,203	33%	0.33	13%	42%	13%	33%
Native Hawaiian or Pacific Islander	118	40%	0.40	14%	32%	14%	40%
White (non-Hispanic)	34,835	39%	0.39	13%	40%	8%	39%
Two or more races	2,932	36%	0.36	14%	41%	9%	36%
Migrant							
Migrant	271	34%	0.34	10%	37%	18%	34%
English Learner							
English Learner	4,581	32%	0.32	13%	40%	15%	32%
Economically Disadvantaged							
Economically Disadvantaged	31,042	36%	0.36	13%	40%	11%	36%
Students with Disabilities							
Students with Disabilities	8,704	38%	0.38	14%	34%	13%	38%



SC041623_00b

Mark's mom saw him watching closely as the wolf walked towards the rabbit. She explained to Mark that the wolf was receiving signals from different sense organs and that the signals caused the wolf to respond as he did. Mark asked, "How does the wolf process the signals it receives?"

3

SC041623_03_4

Which one of the following statements **best** shows the order in which the body processes the signals received through its sense organs?

- A** Brain, sense organ, animal response
- B** Brain, muscles, sense organ, animal response
- C** Muscles, sense organ, brain, animal response
- D** Sense organ, brain, muscles, animal response



Released Item Performance

Kentucky Summative Assessments

Spring 2026

Grade 4

Science

Item: SC041623_03

Book Question Number: 3

Standard: 4-LS1-2, 4-PS4-2

Item Type: MC

Key: D

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	49,376	43%	0.43	19%	23%	16%	43%
Gender							
Female	24,222	42%	0.42	19%	23%	16%	42%
Male	25,153	44%	0.44	18%	22%	15%	44%
Ethnicity							
African American	5,124	31%	0.31	23%	27%	19%	31%
American Indian or Alaska Native	68	41%	0.41	16%	28%	15%	41%
Asian	1,096	49%	0.49	15%	22%	14%	49%
Hispanic or Latino	5,203	36%	0.36	20%	26%	18%	36%
Native Hawaiian or Pacific Islander	118	35%	0.35	20%	20%	25%	35%
White (non-Hispanic)	34,835	46%	0.46	18%	22%	15%	46%
Two or more races	2,931	39%	0.39	20%	25%	16%	39%
Migrant							
Migrant	271	37%	0.37	14%	28%	22%	37%
English Learner							
English Learner	4,581	30%	0.30	21%	28%	20%	30%
Economically Disadvantaged							
Economically Disadvantaged	31,040	38%	0.38	20%	25%	17%	38%
Students with Disabilities							
Students with Disabilities	8,702	38%	0.38	20%	23%	19%	38%



SC041623_00c

Mark said, “It seems like all of the animals around us are always responding to their environment.” Mom responded, “Not exactly. Not all of the messages the brain receives require an immediate response. When an animal senses something, it can also form a memory without doing anything else.”

4

SC041623_04_2,4

Which of these are ways animals could benefit from stored memories?

Select the TWO **best** answers.

- A** Animals remember to blink and sneeze when necessary.
- B** Animals remember what other animals and plants smell like.
- C** Animals remember the motions necessary to walk and breathe.
- D** Animals remember prey behavior to make decisions when they hunt.
- E** Animals remember which animals would make the best mates for reproduction.



Released Item Performance

Kentucky Summative Assessments

Spring 2026

Grade 4

Science

Item: SC041623_04

Book Question Number: 4

Standard: 4-LS1-2

Item Type: MS

Key: B,D

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Score Percentages		
				Score 0 (%)	Score 1 (%)	Score 2 (%)
All Students	49,274	62.2%	1.24	14%	47%	39%
Gender						
Female	24,173	62.4%	1.25	14%	47%	39%
Male	25,100	62.1%	1.24	14%	47%	39%
Ethnicity						
African American	5,111	56.0%	1.12	18%	51%	30%
American Indian or Alaska Native	68	65.4%	1.31	10%	49%	41%
Asian	1,095	67.9%	1.36	9%	46%	45%
Hispanic or Latino	5,193	58.5%	1.17	16%	50%	33%
Native Hawaiian or Pacific Islander	118	59.3%	1.19	15%	51%	34%
White (non-Hispanic)	34,767	63.6%	1.27	13%	46%	41%
Two or more races	2,921	61.5%	1.23	14%	48%	37%
Migrant						
Migrant	271	50.7%	1.01	24%	51%	25%
English Learner						
English Learner	4,570	56.0%	1.12	17%	53%	29%
Economically Disadvantaged						
Economically Disadvantaged	30,965	59.4%	1.19	16%	49%	35%
Students with Disabilities						
Students with Disabilities	8,661	57.2%	1.14	18%	49%	33%



Mark kept a journal on the family hike and recorded the animals he saw. When he returned home, he researched them to better understand the behaviors that the animals displayed.

Animals and Their Traits

Animal	Sensory Traits
Snake	Does not have a nose Smells using tongue
Bear	Has sharpest sense of smell of all animals Has large nose with thousands of smell receptors
Wolf	Has very sharp eyesight Can see prey clearly
Hummingbird	Has very sensitive eyes Is sensitive to red, orange, and purple to spot flowers with nectar
Owl	Sees well in dark with only the light from the moon and stars Hunts at night

Mark researched the different ways these animals use their sensory organs to help themselves survive. He learned that many animals have one sense organ that is stronger than the others.



5

SC041623_05_4

Based on Mark's observations and the data collected in his journal, what one claim can Mark **most likely** make about the different types of animals and how their sensory organs help them survive?

- A** All animals use their nose to smell and locate prey.
- B** Owls use their good sense of smell to hunt at night.
- C** Hummingbirds use their good eyesight for protection.
- D** Snakes use their tongue to detect food and nearby predators.



Released Item Performance

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Grade 4

Science

Item: SC041623_05

Book Question Number: 5

Standard: 4-LS1-2

Item Type: MC

Key: D

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	49,375	48%	0.48	24%	15%	13%	48%
Gender							
Female	24,223	47%	0.47	25%	15%	13%	47%
Male	25,151	48%	0.48	24%	15%	13%	48%
Ethnicity							
African American	5,125	36%	0.36	27%	20%	17%	36%
American Indian or Alaska Native	68	44%	0.44	26%	12%	18%	44%
Asian	1,096	55%	0.55	21%	11%	13%	55%
Hispanic or Latino	5,202	42%	0.42	26%	18%	14%	42%
Native Hawaiian or Pacific Islander	118	41%	0.41	27%	18%	14%	41%
White (non-Hispanic)	34,834	50%	0.50	24%	14%	12%	50%
Two or more races	2,931	45%	0.45	24%	16%	14%	45%
Migrant							
Migrant	271	39%	0.39	23%	23%	16%	39%
English Learner							
English Learner	4,580	37%	0.37	26%	21%	16%	37%
Economically Disadvantaged							
Economically Disadvantaged	31,038	44%	0.44	25%	17%	14%	44%
Students with Disabilities							
Students with Disabilities	8,702	43%	0.43	24%	18%	15%	43%



SC041623_00e

While walking through the campground, Mark and his parents met a park ranger. They had seen the ranger chasing raccoons away from the campground garbage cans the night before. The ranger told them that the raccoons remember that the garbage cans contain food. He explained that the raccoons make a mess as they search for food in the trash cans.

Mark asked if all raccoons behave in the same way around campgrounds. The ranger explained that the way an animal behaves depends on a number of things, but memories play a large part.



SC041623_06_2

Which one set of predictions about a raccoon's behavior is **most** clearly based on the raccoon's stored memories?

A

Raccoon's Memories of Humans	Raccoon's Response to Humans
No memories of interactions with humans	Aggressively approaches
Remembers being sprayed with hose	Cautiously investigates
Remembers being given sandwiches	Immediately runs away

B

Raccoon's Memories of Humans	Raccoon's Response to Humans
No memories of interactions with humans	Cautiously investigates
Remembers being sprayed with hose	Immediately runs away
Remembers being given sandwiches	Aggressively approaches

C

Raccoon's Memories of Humans	Raccoon's Response to Humans
No memories of interactions with humans	Aggressively approaches
Remembers being sprayed with hose	Immediately runs away
Remembers being given sandwiches	Cautiously investigates

D

Raccoon's Memories of Humans	Raccoon's Response to Humans
No memories of interactions with humans	Cautiously investigates
Remembers being sprayed with hose	Aggressively approaches
Remembers being given sandwiches	Immediately runs away



Released Item Performance

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Spring 2026

Grade 4

Science

Item: SC041623_06

Book Question Number: 6

Standard: 4-LS1-2

Item Type: MC

Key: B

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Answer Choice Options			
				A (%)	B (%)	C (%)	D (%)
All Students	49,369	26%	0.26	16%	26%	42%	15%
Gender							
Female	24,219	27%	0.27	15%	27%	42%	15%
Male	25,149	26%	0.26	17%	26%	42%	15%
Ethnicity							
African American	5,122	28%	0.28	21%	28%	35%	16%
American Indian or Alaska Native	68	29%	0.29	12%	29%	43%	16%
Asian	1,096	28%	0.28	12%	28%	46%	14%
Hispanic or Latino	5,203	26%	0.26	17%	26%	39%	18%
Native Hawaiian or Pacific Islander	118	28%	0.28	19%	28%	38%	15%
White (non-Hispanic)	34,830	26%	0.26	15%	26%	44%	15%
Two or more races	2,931	27%	0.27	17%	27%	41%	15%
Migrant							
Migrant	271	26%	0.26	17%	26%	37%	20%
English Learner							
English Learner	4,579	28%	0.28	19%	28%	34%	19%
Economically Disadvantaged							
Economically Disadvantaged	31,036	26%	0.26	18%	26%	40%	16%
Students with Disabilities							
Students with Disabilities	8,702	27%	0.27	19%	27%	36%	18%



SC041623_00f

On the way back to the campsite, the sun was setting and it became dark. Mark and his parents only had flashlights to light their path. In the distance, Mark could hear an owl in the woods. Mark says to his mom, “That owl must be able to see in the dark. How is that possible?” Mom replies, “That isn’t possible. No matter what kind of eyes an animal has, it can only see objects if light is reflecting from them.”

7

SC041623_07

Extended Response Directions: Read the question carefully. Then enter your response in the space provided.

Describe a model that can be used to explain how an owl is able to see a mouse.

Use your model to explain what happens after the light travels through the air and enters the owl’s eye.



Released Item Performance

Kentucky Summative Assessments

Spring 2026

Grade 4

Science

Item: SC041623_07

Book Question Number: 7

Standard: 4-PS4-2

Item Type: ER

Key: Rubric

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Score Percentages				
				Score 0 (%)	Score 1 (%)	Score 2 (%)	Score 3 (%)	Score 4 (%)
All Students	47,034	20.4%	0.81	44%	37%	12%	6%	1%
Gender								
Female	23,355	21.3%	0.85	41%	40%	12%	6%	1%
Male	23,678	19.5%	0.78	47%	35%	12%	6%	0%
Ethnicity								
African American	4,693	13.5%	0.54	59%	31%	7%	3%	0%
American Indian or Alaska Native	62	21.4%	0.85	44%	35%	13%	8%	0%
Asian	1,065	27.1%	1.09	33%	41%	14%	12%	1%
Hispanic or Latino	4,869	15.8%	0.63	53%	35%	8%	3%	0%
Native Hawaiian or Pacific Islander	115	22.2%	0.89	44%	30%	18%	6%	1%
White (non-Hispanic)	33,432	21.9%	0.88	41%	39%	13%	7%	1%
Two or more races	2,797	18.8%	0.75	47%	36%	11%	5%	0%
Migrant								
Migrant	252	12.2%	0.49	60%	32%	7%	1%	0%
English Learner								
English Learner	4,203	12.4%	0.50	60%	33%	5%	2%	0%
Economically Disadvantaged								
Economically Disadvantaged	29,216	17.5%	0.70	49%	36%	10%	4%	0%
Students with Disabilities								
Students with Disabilities	7,956	13.5%	0.54	60%	30%	8%	3%	0%

Rubric

Kentucky Academic Standards Science Rubric	
Score	Description
4	There is evidence in this response that the student has a complete and thorough understanding of the multi-dimensional question as evidenced by their explanation of the phenomenon and/or solution to the problem. The response is complete, thorough and correct and based on appropriate knowledge and skills The response does not contain errors or flaws in logical thinking or those flaws are irrelevant to the accuracy of the answer The response reflects complete synthesis and understanding of complex ideas The response is completely coherent and based on effective application of relevant dimensions (SEP and/or DCI and/or CC) The response integrates a solution that is completely correct and based on the principles of engineering design (if applicable).
3	There is evidence in this response that the student has a general understanding of the multi-dimensional question as evidenced by their explanation of the phenomenon and/or solution to the problem. The response is generally complete and the question is answered using appropriate knowledge and skills The response may contain minor errors or flaws in logical thinking and those flaws may or may not be irrelevant to the accuracy of the answer The response reflects a general synthesis and understanding of complex ideas The response is generally coherent and based on application of relevant dimensions (SEP and/or DCI and/or CC) The response integrates a solution that is generally correct and mostly based on the principles of engineering design (if applicable).
2	There is evidence in this response that the student has a limited understanding of the multi-dimensional question as evidenced by their explanation of the phenomenon and/or solution to the problem. The response is partially complete and/or the question is answered using limited understanding of knowledge and skills The response may contain significant errors or flaws in logical thinking The response reflects a limited synthesis and understanding of complex ideas The response may or may not be and based on some application of relevant dimensions (SEP and/or DCI and/or CC) The response integrates a solution that is partly correct and may or may not be based on the principles of engineering design (if applicable).

1	There is evidence in this response that the student has a minimal understanding of the multi-dimensional question as evidenced by their explanation of the phenomenon and/or solution to the problem. The response is minimal and/or the question is answered using minimal understanding of knowledge and skills The response may contain major significant errors or flaws in logical thinking The response reflects a minimal synthesis and understanding of complex ideas The response is not coherent or is not based on application of relevant dimensions (SEP and/or DCI and/or CC) The response integrates a solution that is minimally correct and may or may not be based on the principles of engineering design (if applicable).
0	There is no evidence that the student has an understanding of the material related to the question being asked in terms of science content and logical thinking skills. The response is blank, entirely incorrect and/or irrelevant.

Anchor Set

A1

The owl's brain help's it smell, taste, ear.

Anchor Annotation, Paper 1

Score Point 0

The response shows no evidence of understanding of the question. This response is entirely irrelevant as no model is described to explain how light travels through the air for the owl to see the mouse or what happens after the light enters the owl's eyes.

A2

it senses that theres prey

Anchor Annotation, Paper 2

Score Point 0

The response shows no evidence of understanding of the question. This response is entirely irrelevant as no model is described to explain how light travels through the air for the owl to see the mouse or what happens after the light enters the owl's eyes.

A3

after the light travels through the air into the owls eye the owl can see the object

Anchor Annotation, Paper 3

Score Point 0

The response shows no evidence of understanding of the question. This response is entirely irrelevant as no model is described to explain how light travels through the air for the owl to see the mouse or what happens after the light enters the owl's eyes.

A restatement of the question will not receive credit as it is too vague to reflect understanding.

A4

The owls eyes send a message to the brain and then the owl responds.

Anchor Annotation, Paper 4

Score Point 1

The response shows a minimal understanding of the question. No model is described to explain how light travels through the air, but the response does minimally describe what happens after the light enters the owl's eyes for the owl to see the mouse. This description of how the brain responds to the sensory organ (*eyes send a message to the brain*) reflects a minimal understanding overall.

A5

The owl can probley see the mouse in the dark because they have really good eyesight so they just need a little bit of light to see from the moon an the stars to get that mouse.

Anchor Annotation, Paper 5

Score Point 1

The response shows a minimal understanding of the question. A minimal description is given of how the owl is able to see the mouse (*they just need a little bit of light to see from the moon an the stars to get that mouse*). The response refers to where the light is coming from but not how light travels through the air or what happens after the light enters the owl's eyes. Overall, the question is answered with minimal understanding.

A6

light is reflecting off of the mouse's eye and into the owl's eye and the owl strikes the mouse

Anchor Annotation, Paper 6

Score Point 1

The response shows a minimal understanding of the question. A minimal description is given of how light enters the owl's eyes (*light is reflecting off of the mouse's eye and into the owl's eye*) and what happens after light enters the eye (*the owl strikes the mouse*). The response does not describe how light travels through the air or how the owl is able to use the light to see the mouse. Overall, the response reflects a minimal synthesis and understanding of complex ideas.

A model that can be used to explain how an owl is able to see a mouse is

1. The mouse enters the light of the moon or sun,
2. The owl sees the mouse coming out of the dark,
3. The owl aims for the mouse.

Using my model I can say that what happens after light travels through the air and enters the owl's eye is the owl could see clearly and attack its pray by keeping direct eye contact on the mouse.

Anchor Annotation, Paper 7

Score Point 2

The response shows a limited understanding of the question. A limited description is given of how light travels through the air and enters the owl's eyes so it can see the mouse (*mouse enters the light ... owl sees the mouse coming out of the dark*) and partially describes what happens after light enters the owl's eyes (*the owl could see clearly and attack its pray by keeping direct eye contact on the mouse*). The response lacks specific details of how the light is traveling and what happens as the light enters the eye. Overall, the response reflects a limited synthesis and understanding of complex ideas.

A model that can be used is you put an owl and a mouse in complete darkness. There is no way for the owl to find it. Then you put a tiny bit of light in the room. The owl then can see the mouse. Once the light hits the mouse, it can reflect off the mouse into the owl's eye, which the owl can then see the mouse and catch it.

Anchor Annotation, Paper 8**Score Point 2**

The response shows a limited understanding of the question. The response describes a model to explain how an owl is able to see a mouse. The response clearly describes a light source (*Then you put a tiny bit of light in the room*), which reflects light off the mouse into the owl's eyes (*Once the light hits the mouse, it can reflect off the mouse into the owl's eye*). But the response does not elaborate as to what happens after the light enters the eye to see the mouse or how the brain uses the information. Overall, the response is partially complete.

- | |
|--|
| <ol style="list-style-type: none">1. The light from the stars reflects of the mouse and into the owls eyes.2. The owls eyes send a message to the brain causing the owl to see the mouse. |
|--|

Anchor Annotation, Paper 9**Score Point 2**

The response shows a limited understanding of the question. A short description is given of how light travels through the air and enters the owl's eyes so it can see the mouse (*light from the stars reflects [off] the mouse and into the owls eyes*). The response also describes what happens after light enters the owl's eyes (*The owls eyes send a message to the brain*) but lacks specific details. Overall, the response is partially complete.

What happens after the light travels through the air and enters the owl's eye is, the light from the moon hits the rat and bounces back to the owl's eye and that sends a message to the brain to attack so the brain sends a message to the muscles that says attack! For example the text says, "...it can only see objects if light is reflecting from them." This shows that because of the light of the moon it can see the rat cause without it it could not see it.

Anchor Annotation, Paper 10**Score Point 3**

The response shows a general understanding of the question. A general description is given of how the light travels through the air and enters the owl's eyes so it can see the mouse (*the light from the moon hits the rat and bounces back to the owl's eye*), and the response describes what happens after light enters the owl's eyes (*sends a message to the brain... sends a message to the [muscles] that says attack!*). Overall, the response answers the question with appropriate knowledge and details that demonstrate a general understanding of the question.

In order to see prey, the owl must detect the smallest of light it's eyes can pick up, by either moonlight or the stars in the night sky.

In order to see, these 5 steps but happen or else the animal can not see.

1. Light reflects off of objects
2. The owl's eyes senses the light form [Object]
3. The owl's eyes detect the light and forms a image
4. The image is sent to the owl's brain
5. The owl remembers that its seeing prey

Anchor Annotation, Paper 11
Score Point 3

The response shows a general understanding of the question. A general description is given of how the light travels through the air (*Light reflects off of objects*) and enters the owl's eyes so it can see the mouse (*The owl's eyes detect the light and forms a image*), and the response describes what happens after light enters the owl's eyes (*The image is sent to the owl's brain... The owl remembers that its seeing prey*). Overall, the response answers the question with appropriate knowledge and details (*the owl must detect the smallest of light it's eyes can pick up*) that demonstrate a general understanding of the question.

An owl is able to see a mouse because light reflects of the mouse into the Owl's eyes. The light from the moon and stars hits the mouse then reflects of into the owls eye. For an owl to see the mouse the light from the moon and stars that reflected from the mouse into the owl's eyes get sent to the back of the eye. The back of the eye creates an image. Then brain proseses the image. That is how an Owl is able to see a mouse.

Anchor Annotation, Paper 12**Score Point 3**

The response shows a general understanding of the question. A general description is given of how light travels through the air (*light from the moon and stars hits the mouse then reflects [off] into the owls eye*) and enters the owl's eyes so it can see the mouse (*reflected from the mouse into the owl's eyes get sent to the back of the eye*), and the response describes what happens after light enters the owl's eyes (*The back of the eye creates an image. Then brain proseses the image*). The response reflects a general synthesis and understanding of complex ideas. Overall, the response is generally complete.

A model that can be used is a drawing of an owl with the moon as our light. The mouse is on the ground. The moon reflects off of the mouse and travels through the air into the owl's eye. Then, the light travels into the owl's pupil and into the optic nerve. The optic nerve then creates an image, the image then goes into the brain. Next, the brain relates to a memory like this one. Last, the owl reacts and swoops down catching the prey. So that means that after the light enters the eye the owl finds a similar memory it almost does that memory again.

Anchor Annotation, Paper 13

Score Point 4

This response shows a complete understanding of the question. It provides the complete process and supports the process with specific details. A clear description is given of how light travels through the air and enters the owl's eyes so it can see the mouse (*A model that can be used is a drawing of an owl with the moon as our light. The mouse is on the ground. The moon reflects off of the mouse and travels through the air into the owl's eye*). The response also describes what happens after light enters the owl's eyes (*the light travels into the owl's pupil and into the optic nerve*) with appropriate and specific details to support the explanation (*The optic nerve then creates an image, the image then goes into the brain. Next, the brain relates to a memory like this one ... the owl finds a similar memory*) and the resulting behavior (*the owl reacts and swoops down catching the prey... it almost does that memory again*). Overall, the response reflects a complete synthesis and understanding of complex ideas.

The owl can see the mouse because the light rays from the sun reflects off of the mouse then enters the owls eyes. First, the light travels through the cornea lens and the pupil. Then, the the light goes through the retina for the optic nerve to take the message to the brain. Next, the brain sees the mouse upside down and automaticly turns it upside down. Finally, the owls brain sends nerves to make the owls wing/muscles to move and catch th emouse and fly away and eat it. This is how the owl catches the mouse. Also, if it is at night the stars and moon reflect off of the mouse and repeats the exact same process in the day.

Anchor Annotation, Paper 14

Score Point 4

This response shows a complete understanding of the question. It provides the complete process and supports the process with specific details. A clear description is given of how light travels through the air and enters the owl's eyes so it can see the mouse (*light rays from the sun reflects off of the mouse then enters the owls eyes... if it is at night the stars and moon reflect off of the mouse and repeats the exact same process*). The response also describes what happens after light enters the owl's eyes (*First, the light travels through the cornea lens and the pupil. Then, the the light goes through the retina for the optic nerve to take the message to the brain*) with appropriate and specific knowledge to support the explanation (*Next, the brain sees the mouse upside down and automaticly turns it upside down. Finally, the owls brain sends nerves to make the owls wing/muscles to move and catch th emouse and fly away and eat it. This is how the owl catches the mouse*). Overall, the response reflects a complete synthesis and understanding of complex ideas.

The owl is able to see the mouse because when the light from the flashlight is on the mouse which allow the light from the flashlight to reflect into the owls eye I know this because when the light shines on the mouse the light reflects into the owls eyes and they see it upside down but the brain automaticially flips it over so they can see it because the light flashes on the mouse which allows it to shine in the pupil and which goes to the brain and flips it over why does the brain flip it over the brain flips it over so animals or people can see it clearly.

Anchor Annotation, Paper 15**Score Point 4**

The response shows a complete understanding of the question. It provides the complete process and supports it with specific details. A clear description is given of how light travels through the air and enters the owl's eyes so it can see the mouse (*the light from the flashlight is on the mouse ... when the light shines on the mouse the light reflects*). The response also describes what happens after light enters the owl's eyes (*which allow the light from the flashlight to reflect into the owls eye ... when the light shines on the mouse the light reflects into the owls eyes*) with appropriate and specific knowledge to support the explanation (*they see it upside down but the brain automaticially flips it over... so animals or people can see it clearly*). Overall, the response reflects a complete synthesis and understanding of complex ideas.



SC041623_00g

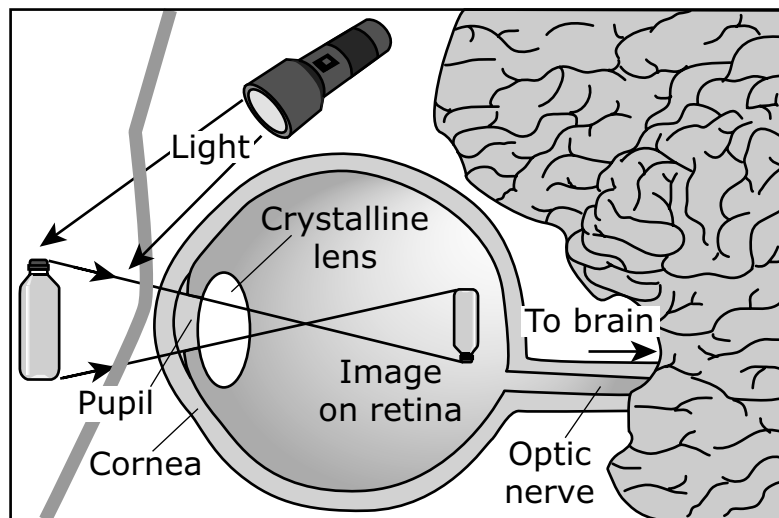
Mark and his parents finally returned to their campsite. He crawled inside his tent and turned off the flashlight. His tent became dark and he couldn't find his water bottle.

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SC041623_08_5,4

After Mark turns off his flashlight, he is unable to see anything. Which TWO parts of this model must be removed to explain why Mark can't see?

Select the TWO **best** answers.



- A Brain
- B Pupil to the lens
- C Optic nerve to the brain
- D Light from the object to the eyeball
- E Light from the flashlight to the object



Released Item Performance

Kentucky Summative Assessments

Spring 2026

Grade 4

Science

Item: SC041623_08

Book Question Number: 8

Standard: 4-PS4-2

Item Type: MS

Key: D,E

Student Group	Number of Students	Percent Correct	Average Item Score	Item Breakout Statistics - Score Percentages		
				Score 0 (%)	Score 1 (%)	Score 2 (%)
All Students	49,175	61.7%	1.23	17%	42%	41%
Gender						
Female	24,111	61.1%	1.22	17%	43%	40%
Male	25,063	62.3%	1.25	18%	40%	42%
Ethnicity						
African American	5,102	52.7%	1.05	22%	51%	27%
American Indian or Alaska Native	68	58.1%	1.16	22%	40%	38%
Asian	1,093	63.9%	1.28	16%	41%	43%
Hispanic or Latino	5,186	56.5%	1.13	19%	49%	32%
Native Hawaiian or Pacific Islander	118	56.8%	1.14	19%	47%	33%
White (non-Hispanic)	34,690	64.0%	1.28	16%	39%	44%
Two or more races	2,917	58.8%	1.18	20%	42%	38%
Migrant						
Migrant	271	56.3%	1.13	18%	52%	30%
English Learner						
English Learner	4,563	52.4%	1.05	21%	53%	26%
Economically Disadvantaged						
Economically Disadvantaged	30,891	58.7%	1.17	19%	44%	37%
Students with Disabilities						
Students with Disabilities	8,593	58.9%	1.18	19%	44%	37%



Investing in Kentucky's Future, One Student at a Time