Wisconsin WFE Grade 4 Science Practice

Exam Materials
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Wisconsin Forward Exam

WISCONSIN DEPARTMENT OF
Public Instruction

Science
Item Sampler
Grade 4

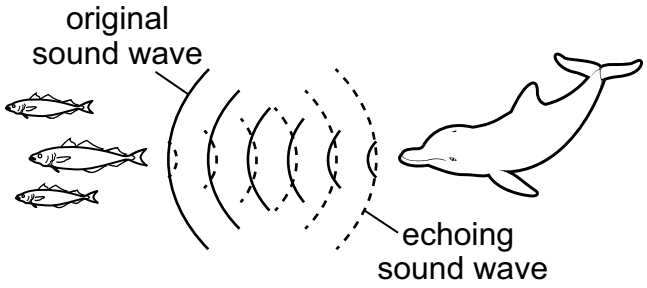
SCENARIO 1

Read the following scenario. Then answer items 1 through 5. You may look back at the scenario to help you answer the items.

Seeing with Sounds Underwater

It is difficult to see underwater where it is dark. Some ocean animals, such as dolphins, use sounds to help them understand their water environment. Dolphins produce high-pitched sounds. These sound waves travel through the water until they bump into an object. Then, the sound waves bounce off the object. The echoes of the sound waves return to the dolphin—specifically to the dolphin's jaw. The sounds travel through the dolphin's jaw to its inner ear, where the sounds are translated into nerve impulses that travel to the brain. The way dolphins "see" with sounds is called echolocation.

Dolphin Using Echolocation



From echoing sound waves, dolphins can learn a lot about an object: its shape, its size, its distance from the dolphin, and whether it is moving toward or away from the dolphin. Dolphins use echolocation to find their way around, to find prey, and to communicate with each other.

Scientists realized that the way dolphins can gather information from sounds could be used for human-made technology. Sonar is one example of this type of technology. Sonar is used by submarines and ships to find their way underwater and locate objects. Similar to echolocation, sonar sends out sound waves and interprets the echoing waves.

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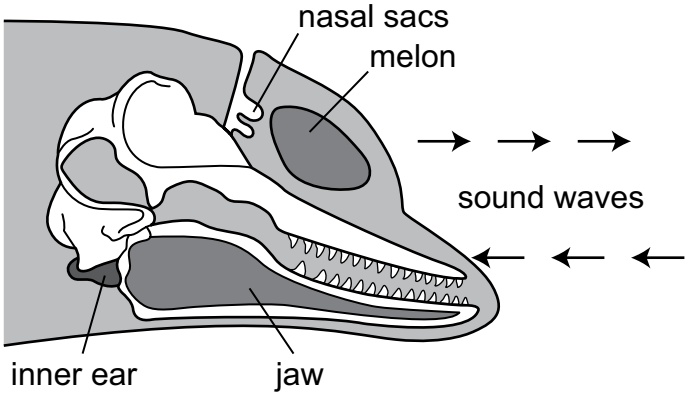
1. The diagram below shows how dolphins produce and receive sounds.

Dolphin Echolocation System



Dolphins make sounds by blowing air through their nasal sacs. These sounds travel into the water through the melon, an organ in the forehead. Returning sound waves are received through the jaw and then sent to the inner ear. In the inner ear, sound waves are translated into nerve impulses and sent to the brain.

Which model best shows how dolphins use incoming sound waves?

A. incoming sound waves → nerve impulses → jaw → inner ear → brain

B. incoming sound waves → jaw → inner ear → nerve impulses → brain

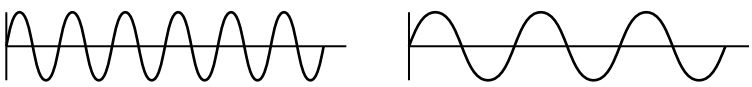
C. incoming sound waves → inner ear → nerve impulses → jaw → brain

D. incoming sound waves → nerve impulses → inner ear → jaw → brain

Go on to the next page.

2. A student studies models of waves with different pitches.

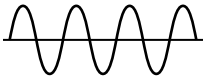
Sounds Produced by a Dolphin



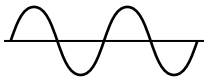
higher pitch lower pitch

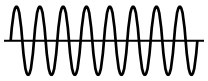
Echoing waves with a lower pitch than the original sound wave suggest the object is moving away from the source. A dolphin produces the sound wave shown below.

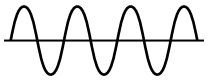
Dolphin Sound Wave

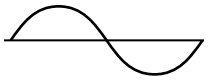


Which model best shows an echoing wave for an object moving toward the dolphin?

A. 

B. 

C. 

D. 

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3. Dolphins cannot detect fishing nets using echolocation. Sometimes dolphins get caught in these nets. A student listed two possible solutions to improve the design of the nets.

Possible Design Solutions
Solution 1: increase the size of the openings in the net so dolphins can swim out
Solution 2: attach a device to the net that reflects echolocation sounds from dolphins

The goals for the new nets are listed below.

Goals for the Nets

Goal A: prevent dolphins from getting trapped

Goal B: help dolphins to locate fishing nets

Which table best identifies the goal(s) that each solution meets?

A.

	Goal A	Goal B
Solution 1		×
Solution 2	×	

B.

	Goal A	Goal B
Solution 1	×	×
Solution 2		×

C.

	Goal A	Goal B
Solution 1	×	
Solution 2	×	×

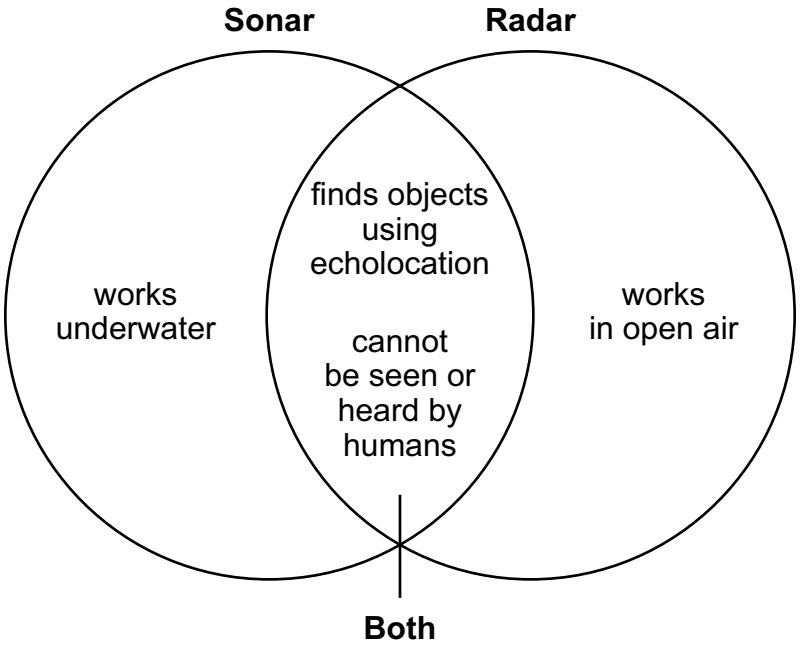
D.

	Goal A	Goal B
Solution 1	×	
Solution 2		×

Go on to the next page.

4. The Venn diagram below compares two applications of wave energy by humans.

1. sonar (sound navigation and ranging)
2. radar (radio detection and ranging)



A scientist wants to track the movement of songbirds as they migrate through Wisconsin.

Which explanation best describes the technology the scientist should use to track songbird migration?

A. The scientist should use radar to track songbird migration because it works in open air.

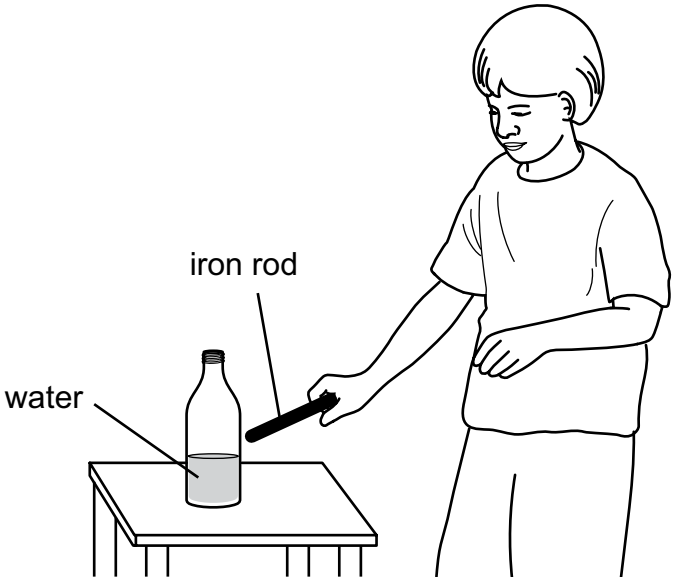
B. The scientist should use sonar to track songbird migration because it works in open air.

C. The scientist should use radar to track songbird migration because it works underwater.

D. The scientist should use sonar to track songbird migration because it works underwater.

Go on to the next page.

5. A student pours water into a glass bottle. Next, the student gently taps the outside of the bottle with an iron rod.



Part A

Which idea is most likely being investigated by the student?

A. energy transfer through materials

B. heat conduction through materials

C. magnetic properties of materials

D. reflective properties of materials

Part B

Which observations best support the answer to Part A?

A. The temperature of the water remains the same after the student taps the bottle with the iron rod.
The iron rod and the glass bottle are made of different materials.

B. A sound is produced when the student taps the bottle with the iron rod.
The temperature of the water remains the same after the student taps the bottle with the iron rod.

C. A sound is produced when the student taps the bottle with the iron rod.
Waves are produced in the water, showing vibration.

D. Waves are produced in the water, showing vibration.
The iron rod and the glass bottle are made of different materials.

Go on to the next page.

SCENARIO 2

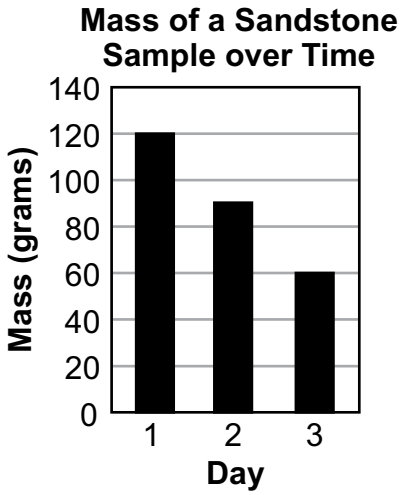
Read the following scenario. Then answer items 6 through 8. You may look back at the scenario to help you answer the items.

Weathering Rocks

Students learn that igneous, sedimentary, and metamorphic rocks can be observed in Wisconsin. These rocks weather at different rates.

The students study data from an experiment that used a rock tumbler, which is a machine used to weather rocks. A rock tumbler spins and tumbles rocks similar to how a washing machine spins and tumbles clothes. A rock tumbler is filled with sand and water to help weather the rocks inside. The data from the experiment suggest that certain igneous rocks weather at a slower rate than some sedimentary and metamorphic rocks exposed to the same conditions.

The students decided to conduct a similar experiment with one type of rock in a rock tumbler half-filled with sand and water. The students selected a rock sample of sandstone, which is a sedimentary rock. Over three days, the students measured the mass of the sandstone. The students recorded the data in the graph below.



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6. The students decide to leave the rocks in the rock tumbler for a fourth day. One student claims that the mass of the sandstone sample on day 4 can be predicted since weathering conditions remained the same throughout the investigation.

What is the most likely mass of the sandstone sample on day 4 of the investigation?

A. 120 grams

B. 60 grams

C. 30 grams

D. 10 grams

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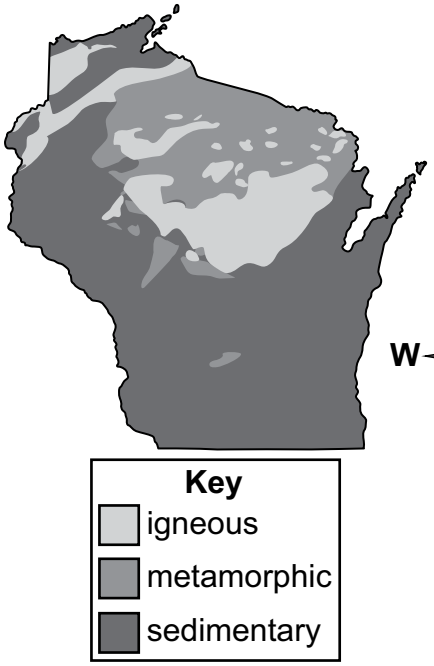
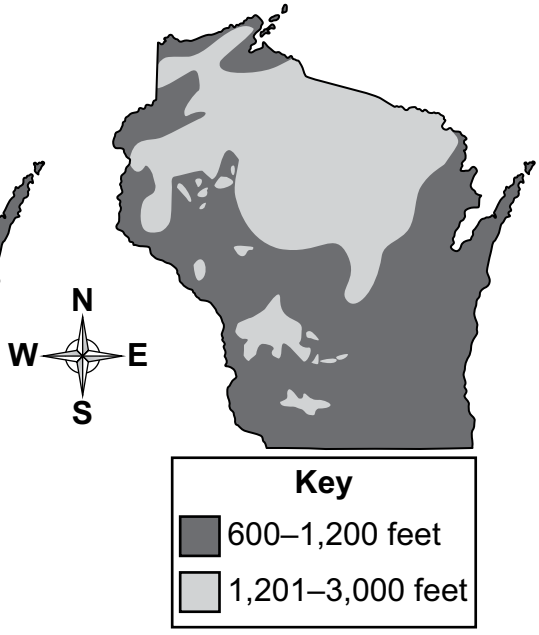
7. Students are studying characteristic rocks in Wisconsin. The students study two maps comparing the types of rocks in Wisconsin and the elevation across the state. One student observes a pattern between the rock type and elevation.

Rock Types of Wisconsin



Elevation Map of Wisconsin



Which chart shows the pattern the student observed?

A.

Elevation (feet)	Rock Types
600–1,200	metamorphic and sedimentary
1,201–3,000	igneous

B.

Elevation (feet)	Rock Types
600–1,200	sedimentary
1,201–3,000	igneous and metamorphic

C.

Elevation (feet)	Rock Types
600–1,200	igneous
1,201–3,000	metamorphic and sedimentary

D.

Elevation (feet)	Rock Types
600–1,200	igneous and metamorphic
1,201–3,000	sedimentary

Go on to the next page.

8. Engineers are exploring locations to construct a new building. They study a chart showing factors that affect rates of weathering.

Factors That Affect Rates of Weathering

Factor	fast ← weathering rate → slow		
precipitation	high	medium	low
thickness of soil layer	thin	medium	thick
hills	steep	medium	gentle

Next, the engineers study a chart showing characteristics of four locations in Wisconsin.

Location	Average Yearly Precipitation (inches)	Thickness of Soil Layer	Hills
1	31–32	thick	gentle
2	37–38	thin	gentle
3	32–33	medium	steep
4	34–35	thin	medium

Which location most likely has the slowest rate of rock weathering?

A. location 1

B. location 2

C. location 3

D. location 4

STOP.

STOP.

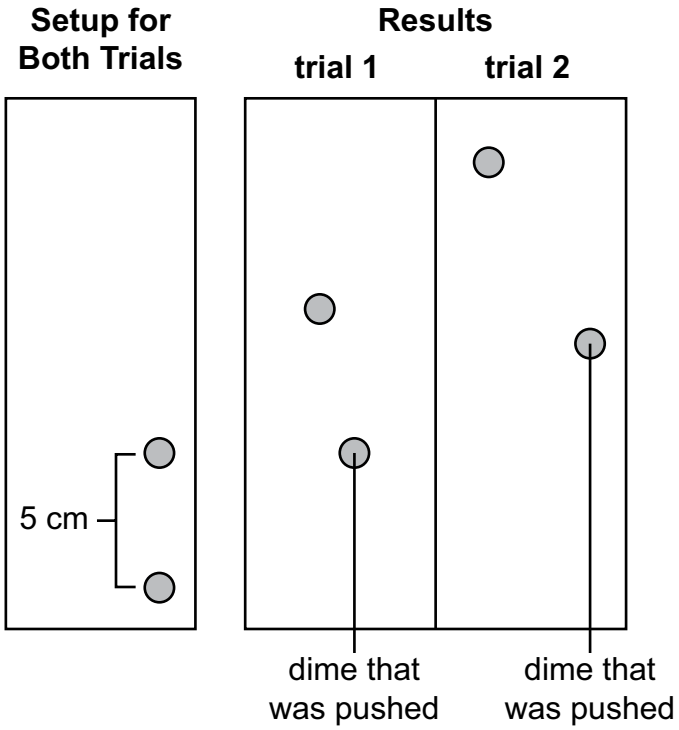
SCENARIO 1

Read the following scenario. Then answer items 1 through 3. You may look back at the scenario to help you answer the items.

Moving Dimes

Science students are using dimes to learn about energy transfer. The students set up four dimes on a smooth surface. A student pushed one dime into another dime placed 5 centimeters away—causing a collision.

In trial 1, the push was gentle. In trial 2, the push was stronger than in trial 1. The experimental setup and the results following the collision are shown below.



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1. A student suggests that there are several ways to observe energy transfer during a collision.

Which statement describes the best prediction about the results of this experiment if a student were collecting data about sound?

A. The collision in trial 1 would produce a sound that lasts for a longer time than the sound produced by the collision in trial 2.

B. The collisions in trial 1 and trial 2 would produce sounds that cannot be heard by the human ear.

C. The collisions in trial 1 and trial 2 would produce identical sounds.

D. The collision in trial 2 would produce a louder sound than the sound produced by the collision in trial 1.

Go on to the next page.

2. A student claims that the dime that was pushed in trial 2 had more energy than the dime that was pushed in trial 1.

Which explanation provides the best evidence from this investigation to support the claim?

A. The pushed dime in trial 2 had more energy because it moved forward in a straighter line than the pushed dime in trial 1.

B. The pushed dime in trial 2 had more energy because it received a gentler push than the dime in trial 1 did.

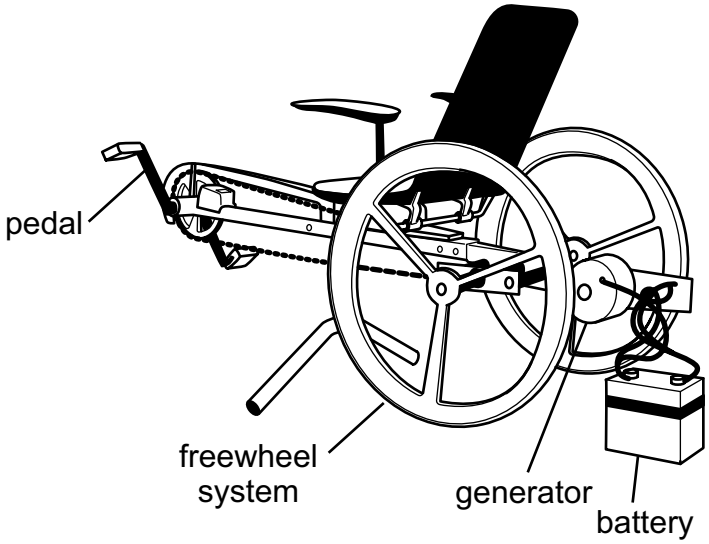
C. The pushed dime in trial 2 had more energy because it was pushed harder, and its faster motion caused the other dime to move farther after they collided than the pushed dime in trial 1 did.

D. The pushed dime in trial 2 had more energy because it moved more slowly than the pushed dime in trial 1 did, so it transferred more energy to the other dime when they collided.

Go on to the next page.

3. After observing the dimes collide, a student considers how energy transfer occurs in other objects. The student learns about a bike that is being used to provide electricity. The diagram below shows the bike.

Electric Bike



Next, the student studies the flowchart below about how the bike works.

pedal ⟶ freewheel system ⟶ generator ⟶ battery

Which option identifies an input and output in this system?

A. input: stored energy in the battery
output: motion energy in the body

B. input: motion energy in the body
output: stored energy in the battery

C. input: stored energy in the battery
output: sunlight energy

D. input: sunlight energy
output: motion energy in the body

Go on to the next page.

STANDALONE ITEMS

4. Which words correctly complete the sentences to model how humans receive, understand, and react to information from a doorbell?

1. The person's _____ detect(s) the sound that the doorbell makes.
2. The information is interpreted in the person's _____ .
3. The person uses his or her _____ to move to the door.

A. 1. ears
   2. brain
   3. body

B. 1. ears
   2. eyes
   3. body

C. 1. body
   2. brain
   3. eyes

D. 1. brain
   2. ears
   3. eyes

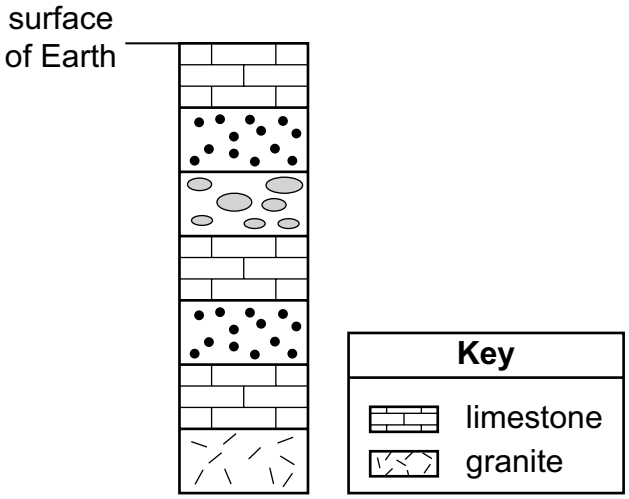
Go on to the next page.

5. A student is looking at the diagram below, which uses symbols to represent layers of rock in an area. Each type of rock has a unique symbol.

Limestone, a type of rock that is usually deposited when a surface is covered by an ocean, is shown by a brick-like pattern.

Granite, a rock that is commonly found in areas that have had volcanic eruptions, is shown by a pattern that looks like very short lines arranged in different directions.

Rock Layer Symbols



Which statements provide the best description of this area?

A. The deepest and oldest layer shows limestone, indicating that the land was formed by a volcano. The area was repeatedly affected by an ocean, as shown by the layers of granite.

B. The deepest and oldest layer shows limestone, indicating that the land was formed by an ocean. The area was repeatedly affected by a volcano, as shown by the layers of limestone.

C. The deepest and oldest layer shows granite, indicating that the land was formed by an ocean. The area was repeatedly affected by a volcano, as shown by the layers of granite.

D. The deepest and oldest layer shows granite, indicating that the land was formed by a volcano. The area was repeatedly affected by an ocean, as shown by the layers of limestone.

STOP.

STOP.

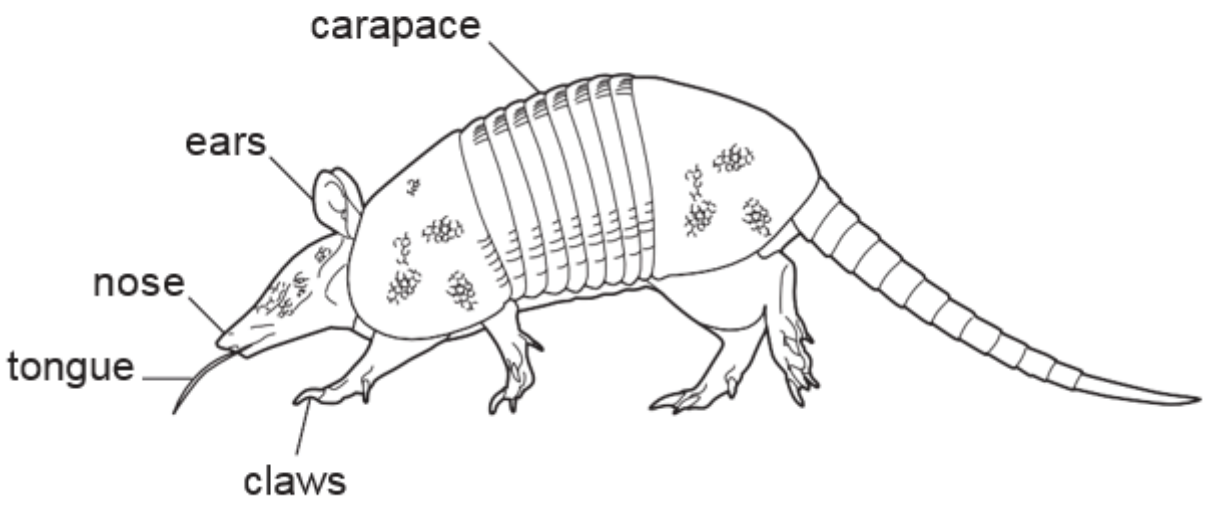
SCENARIO 1

Armadillos

Armadillos are mammals that have many features to help them survive. Armadillos dig large holes in the ground to sleep and live in, and they eat insects and worms that live in the ground. All types of armadillos have a shell, called a carapace, which is made up of hard pieces of bone (much like a turtle shell) that are connected to each other. The carapace can bend where the pieces of bones connect to each other, so it is both hard and flexible.

Armadillos have poor eyesight so they must rely on their other senses to help them survive. Armadillos must use their sense of smell and hearing to figure out what other types of animals are in the area. The armadillo can remember the scent of other armadillos and recognize them.

Armadillo



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1. Which statement best describes the feature that is most useful when an armadillo is defending itself from predators?

A. The carapace protects the sensitive areas of the armadillo from harm.

B. The sense of smell protects the armadillo from other armadillos.

C. The long sticky tongue protects the armadillo from insects.

D. The claws protect the armadillo from other animals.

2. The armadillo's poor eyesight is not useful for sensing predators. Which two features of a predator would most likely make the predator easier for an armadillo to detect?

A. being warm-blooded, which makes the predator give off more heat

B. having a strong odor, which makes the predator easier to smell

C. being taller, which makes the predator take up more space

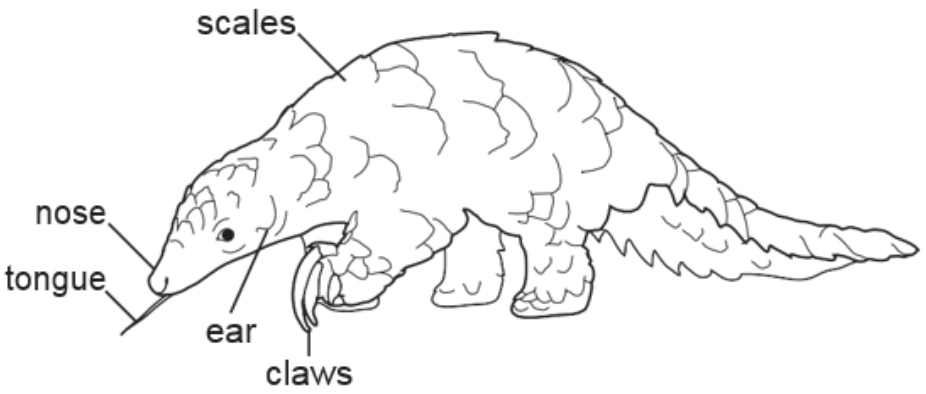
D. having scales, which causes the predator's body to reflect light

E. weighing more, which causes the predator to be noisier when it moves

Go on to the next page.

3. Pangolins are mammals that have similar body structures to armadillos. They use these body structures in the same way as armadillos do for survival. Instead of a carapace, they have hard scales on their bodies.

Pangolin



Based on the information about armadillos in the scenario, which chart shows the pangolin structures correctly matched with their functions?

A.

Structures	Functions
sticky tongue	digging for prey
claws	protection from predators
scales	retrieving prey from underground

B.

Structures	Functions
sticky tongue	protection from predators
claws	digging for prey
scales	retrieving prey from underground

C.

Structures	Functions
sticky tongue	retrieving prey from underground
claws	digging for prey
scales	protection from predators

D.

Structures	Functions
sticky tongue	digging for prey
claws	retrieving prey from underground
scales	protection from predators

Go on to the next page.

4. An armadillo is identifying another armadillo it has already met. Which list shows the steps in the order they would occur?

A. 1. The armadillo smells something.
2. The armadillo realizes it is encountering another armadillo.
3. The armadillo's brain identifies the scent from a previous experience.

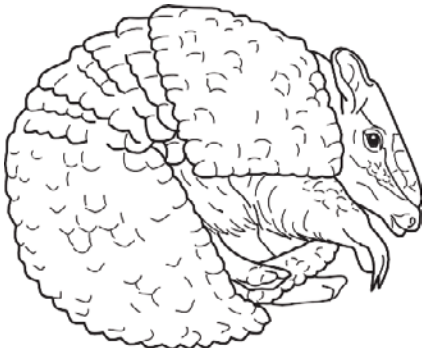
B. 1. The armadillo smells something.
2. The armadillo's brain identifies the scent from a previous experience.
3. The armadillo realizes it is encountering another armadillo.

C. 1. The armadillo realizes it is encountering another armadillo.
2. The armadillo smells something.
3. The armadillo's brain identifies the scent from a previous experience.

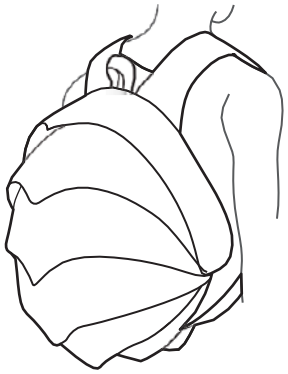
D. 1. The armadillo realizes it is encountering another armadillo.
2. The armadillo's brain identifies the scent from a previous experience.
3. The armadillo smells something.

5. The three-banded armadillo has overlapping bones in its carapace that allow it to curl into a ball, tucking its face, legs, and tail inside the carapace. The picture on the left is a three-banded armadillo and the picture on the right is a backpack made of rubber tire pieces.

Armadillo Curled Into a Ball



Backpack Design



The backpack was designed based on the armadillo's body features. Which <u>two</u> features of the three-banded armadillo did engineers <u>most likely</u> use to help develop this backpack?

A. being flexible, so it can change shape

B. being hard, so it protects items inside

C. being dark, so it can absorb heat

D. being rubber, so it is comfortable

E. being made of many pieces, so it can come apart

STOP.

STOP.

SUMMARY DATA

Grade 4

Sample Number	Alignment	Answer Key	Depth of Knowledge	Annotations
Session 1				
1	SCI.LS1.D.4: Disciplinary Core Idea; SCI.SEP2.A.3-5: Developing Models; SCI.CC4.3-5: Systems and System Models	B	2	A. The incoming sound waves move to the jaw before being sent as a nerve impulse. B. Correct. The student is asked to model the process of dolphins receiving and processing incoming sounds. C. The sound does not move directly to the inner ear when received and nerve impulses carry information to the brain, which is the last step of the system. D. The incoming sound waves move to the jaw before being sent as a nerve impulse.
2	SCI.PS4.A.4: Disciplinary Core Idea; SCI.SEP2.A.3-5: Developing Models; SCI.ETS1.A.3-5: Disciplinary Core Idea; SCI.SEP1.B.3-5: Defining Problems	B	2	A. The wave model has a lower pitch than the object is moving away from the dolphin. B. Correct. An object moving toward the dolphin will have a higher pitch (frequency) than an object moving away from the dolphin. C. The wave model has the same pitch as the dolphin sound wave, which means the object is not moving. D. The wave model has a lower pitch than the dolphin sound wave, which means the object is moving away from the dolphin.

Grade 4

Sample Number	Alignment	Answer Key	Depth of Knowledge	Annotations
3	SCI.ETS1.A.3-5: SCI.SEP1.B.3-5:	C	2	A. Solution 1 will prevent dolphins from getting trapped but not help dolphins to locate fishing nets. Solution 2 will also help dolphins to locate fishing nets. B. Solution 1 will not help dolphins to locate fishing nets. Solution 2 will also prevent dolphins from getting trapped. C. Correct. Solution 1 can prevent dolphins from getting trapped. Solution 2 can help dolphins to locate fishing nets and hence also prevent dolphins from getting trapped. D. Solution 2 will also prevent dolphins from getting trapped.
4	SCI.ETS1.A.3-5: Disciplinary Core Idea; SCI.SEP6.A.3-5: Constructing Explanations	A	3	A. Correct. Radar would work best to track songbird migrations since birds fly in the open air and the Venn diagram shows that radar works in open air. B. The Venn diagram shows that sonar Explanations works underwater but not in open air. C. The Venn diagram shows that radar works in open air and not underwater. D. The Venn diagram shows that sonar works underwater, but songbirds travel in open air and not underwater. Their migration would be better tracked by radar due to its ability to track in open air.

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Sample Number	Alignment	Answer Key	Depth of Knowledge	Annotations
5	SCI.PS3.B.4: Disciplinary Core Idea; SCI.SEP3.A.3-5: Planning and Conducting Investigations; SCI.CC5.3-5: Energy and Matter	Part A: A Part B: C	3	**Part A** A. Correct. The student is investigating energy transfer from the iron rod through the bottle and water. B. Although some heat energy will be transferred in the system, the student is not investigating heat conduction. C. The student is not testing magnetic properties of materials. D. The student is not testing reflective properties of materials. **Part B** A. Observations about temperature and the types of materials do not indicate that the student is investigating energy transfer through materials. B. The observation about temperature does not indicate that the student is investigating energy transfer through materials. C. Correct. Observations about sound and waves indicate that the student is investigating energy transfer through materials. D. The observation about the types of materials does not indicate that the student is investigating energy transfer through materials.

Grade 4

Sample Number	Alignment	Answer Key	Depth of Knowledge	Annotations
6	SCI.ESS2.A.4: Disciplinary Core Idea; SCI.SEP4.A.3-5: Analyze and Interpret Data; SCI.CC2.3-5: Cause and Effect	C	2	A. The mass of the rock sample on day 4 will be less than the mass of the rock sample on day 1. B. The mass of the rock sample on day 4 will be less than the mass of the rock sample on day 3. C. Correct. Based on the pattern shown in the graph, the mass of the rock sample and on day 4 will be about 30 grams less than the mass of the rock sample on day 3. D. The mass of the rock sample on day 4 will more likely be about 30 grams less than the mass of the rock sample on day 3.
7	SCI.ESS2.B.4: Disciplinary Core Idea; SCI.SEP4.A.3-5: Analyze and Interpret Data SCI.CC1.3-5: Patterns	B	3	A. The maps indicate that metamorphic rocks are mostly found at higher elevations. B. Correct. The maps indicate that lower elevations have mostly sedimentary rocks and higher elevations have mostly igneous and metamorphic rocks. C. The chart shows the reverse of the trend from the maps for igneous and sedimentary rocks. D. The maps indicate the opposite pattern to what is shown in the chart.
8	SCI.ESS2.B.4: Disciplinary Core Idea; SCI.SEP6.B.3-5: Design Solutions SCI.CC2.3-5: Cause and Effect	A	3	A. Correct. Location 1 most likely has the Slowest rate of rock weathering due to the relatively low yearly Precipitation, the thick soil layer, and the gentle slopes. B. The higher amount of yearly precipitation and the thin soil layer indicate that location 2 likely does not have the slowest rate of rock weathering. C. The steep hills indicate that location 3 likely does not have the slowest rate of rock weathering. D. The thin soil layer indicates that location 4 likely does not have the slowest rate of rock weathering.

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Sample Number	Alignment	Answer Key	Depth of Knowledge	Annotations
Session 2				
1	SCI.PS3.C.4: Disciplinary Core Idea; SEP3.A.3-5: Planning and Conducting Investigations; SCI.CC5.3-5: Energy and Matter	D	3	A. There is no evidence that the collision in trial 1 would produce a sound that lasted longer than the collision in trial 2. B. There is no evidence that the collisions would produce sounds that cannot be heard by the human ear; the student is collecting data about sound. C. The collision in trial 2 would produce a slightly louder sound than, not an identical sound to, the collision in trial 1. D. Correct. The collision in trial 2 would produce a slightly louder sound; the dime in trial 2 was pushed harder, which means it transferred more energy to the other dime.
2	SCI.PS3.A.4: Disciplinary Core Idea; SCI.SEP6.A.3-5: Constructing Explanations; SCI.CC5.3-5: Energy and Matter	C	2	A. Moving in a straighter line does not indicate that the dime had more energy. B. The pushed dime in trial 2 received a stronger push than the pushed dime in trial 1. C. Correct. The harder push in trial 2 means that the pushed dime had more energy of motion that was transferred to the other dime, causing it to move farther. D. The pushed dime in trial 2 received a stronger push, so it moved faster than the pushed dime in trial 1.
3	SCI.PS3.B.4: Disciplinary Core Idea; SCI.CC5.3-5: Energy and Matter	B	2	A. This is the reverse of the input and output for the system. B. Correct. Motion energy from the body is the input into the bike system, and it is transferred to stored energy in the battery. C. Stored energy in the battery is the output in the system, and the bike system output is not sunlight energy. D. Motion energy from the body is the input into the bike system, not the output; and the input is motion energy from the body, not sunlight energy.

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Sample Number	Alignment	Answer Key	Depth of Knowledge	Annotations
4	SCI.PS3.B.4: Disciplinary Core Idea; SCI.CC4.3-5: Systems and System Models	A	2	A. Correct. The ears detect the doorbell's sound, the brain interprets the sound, and then the person's body moves toward the door. B. The brain, not the eyes, interprets the sound from the doorbell. C. The ears, not the body, detect the doorbell's sound, and the person uses the body, not the eyes, to move to the door. D. The ears, not the brain, detect the doorbell's sound; the brain, not the ears, interprets the sound from the doorbell; and the person uses the body, not the eyes, to move to the door.
5	SCI.ESS1.C.4: Disciplinary Core Idea; SCI.SEP6.A.3-5: Constructing Explanations SCI.CC1.3-5: Patterns	D	3	A. The student reverses the symbols for limestone and granite. B. The student reverses the symbols for limestone and granite and also what is indicated by the presence of limestone and granite rock layers. C. The student reverses what is indicated by the presence of limestone and granite rock layers. D. Correct. The student is asked to interpret the symbols for the granite and limestone rock layers and to identify what is indicated by their presence.

Grade 4

Sample Number	Alignment	Answer Key	Depth of Knowledge	Annotations
Session 3				
1	SCI.LS1.A.4: Disciplinary Core Idea SCI.SEP6.A.3-5: Constructing Explanations SCI.CC4.3-5: Systems and System Models	A	2	A. Correct. The hard carapace protects the armadillo from predators. B. The sense of smell protects the armadillo from predators, not from other armadillos. C. The long sticky tongue catches insects, which are its prey; it does not protect the armadillo from predators. D. The claws are used to dig holes in the ground for shelter and to find food.
2	SCI.LS1.D.4: Disciplinary Core Idea SCI.SEP8.A.3-5: Obtain, Evaluate, and Communicate Information	B, E	3	A. Armadillos do not sense their predators through body heat. B. Correct. Armadillos use their sense of smell to detect predators. C. Armadillos do not more easily detect tall predators. D. Armadillos do not more easily detect predators with reflective scales. Armadillos have poor eyesight. E. Correct. Armadillos use their sense of hearing to detect predators.
3	SCI.LS1.A.4: Disciplinary Core Idea SCI.SEP8.A.3-5: Obtain, Evaluate, and Communicate Information SCI.CC6.3-5: Structure and Function	C	2	A. Pangolins use the sticky tongue for retrieving prey from underground; use the claws to dig for prey; and use the scales as protection from predators. B. Pangolins use the sticky tongue for retrieving prey from underground; and use the scales as protection from predators. C. Correct. Pangolins, like armadillos, use the sticky tongue for retrieving prey from underground; use the claws to dig for prey; and use the scales as protection from predators. D. Pangolins use the sticky tongue for retrieving prey from underground; and use the claws to dig for prey.

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Sample Number	Alignment	Answer Key	Depth of Knowledge	Annotations
4	SCI.LS1.D.4: Disciplinary Core Idea SCI.SEP2.A.3-5: Developing Models	B	2	A. The armadillo's brain identifies the scent before the armadillo remembers the scent of another armadillo. B. Correct. The armadillo first smells the scent, then the brain identifies the scent, then the armadillo remembers the scent of another armadillo. C. The armadillo first smells the scent, before it remembers the scent of another armadillo or uses its brain to identify the scent. D. The armadillo first smells the scent, before its brain identifies the scent, then the armadillo remembers the scent of another armadillo.
5	SCI.ETS2.B.3-5: Disciplinary Core Idea SCI.SEP1.B.3-5: Defining Problems SCI.CC6.3-5: Structure and Function	A, B	2	A. Correct. The flexibility of the backpack allows it to change shape, like the carapace of a three-banded armadillo. B. Correct. The hardness of the backpack material protects the items inside, like the carapace of a three-banded armadillo protects its internal organs. C. The backpack was not designed to have the same color as a three-banded armadillo. D. The comfort of the rubber backpack is not analogous to a structure-function relationship in the three-banded armadillo. E. The backpack is not designed to come apart, and this is not analogous to a structure-function relationship in the three-banded armadillo.