

PSSA, Grade 8 Science

Animals and Seasonal Weather Changes

Handscoring Anchor Set

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Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1.	
2.	

Animals and Seasonal Weather Changes Scoring Guide

2	The response demonstrates a <i>thorough</i> understanding of the response of organisms, to environmental changes (e.g., changes in climate, hibernation, migration, coloration) and how these changes affect survival by describing two ways that animals respond to the seasonal weather changes in Pennsylvania. The response is clear, complete, and correct.
1	The response demonstrates a <i>partial</i> understanding of the response of organisms to environmental changes (e.g., changes in climate, hibernation, migration, coloration) and how these changes affect survival by describing one way that animals respond to the seasonal weather changes in Pennsylvania. The response may contain some work that is incomplete or unclear.
0	The response provides <i>insufficient</i> evidence to demonstrate any understanding of the concept being tested.

Note: No deductions should be taken for misspelled words or grammatical errors.

Responses that will receive credit:

Ways that animals respond (1 point each):

- Some animals hibernate, go into torpor, or become dormant in the winter.
- Some animals migrate to a warmer climate in the fall, and return in the spring.
- Some animals' fur turns a lighter color (white) in winter, and turns darker in spring.
- Some animals grow thicker fur / fat layers in preparation for winter.
- Some animals store food in the fall.
- Some animals find winter shelter.

9/16/10

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

- 1: One way animals in Pennsylvania respond to the seasonal weather change is that, in winter, many animals grow an extra amount of fur called a winter coat to adapt to the temperature change that occurs in winter.
- 2: Another way animals respond to the weather changes in Pennsylvania, is that in winter, some animals stock up on food and grow greatly in size. They then go into hibernation and sleep through winter to wake up in spring when it is warm again.

A-1 Score Point 2

The response demonstrates a thorough understanding of the response of organisms, to environmental changes (e.g., changes in climate, hibernation, migration, coloration) and how these changes affect survival by completing all tasks presented in the item. The student describes two animal responses (*in winter, many animals grow an extra amount of fur, and go into hibernation and sleep through winter*). This response is complete and correct.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: One of the many ways that animals respond to the seasonal weather changes in Pennsylvania because when the weather starts to become colder, the birds start to migrate to the south to stay in warmer weather.

2: Another way that animals respond to the seasonal weather changes in Pennsylvania is that they go into hibernation. For example, bears would stay in caves and sleep until winter is over and spring starts again.

A-2 Score Point 2

The response demonstrates a thorough understanding of the response of organisms, to environmental changes (e.g., changes in climate, hibernation, migration, coloration) and how these changes affect survival by completing all tasks presented in the item. The student describe two way that animals respond (*birds start to migrate to the south and they go into hibernation*). The additional explanation provided is not necessary for credit, but it must be correct if included with the answer. This response is complete and correct.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

- 1: During the winter animals go hibernating for the winter. For example bears hibernate during the winter.
- 2: Some animals even change their appearance. For example, a bunny may have white fur in the winter and then it will change to a brownish color during the summer.

A-3 Score Point 2

The response demonstrates a thorough understanding of the response of organisms, to environmental changes (e.g., changes in climate, hibernation, migration, coloration) and how these changes affect survival by completing all tasks presented in the item. The student describes that “during the winter animals go hibernating for the winter” and “some animals even change their appearance”. The additional description of the change in appearance (a bunny may have white fur in the winter and then it will change to a brownish color during the summer) illustrates a seasonal change and is required for the credit. This response is complete and correct.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: When winter comes some animals in Pennsylvania store food. They store the food so they have plenty of food for winter.

2: Also in the winter people go hunting. So when some animals are hunted that population might go down.

A-4 Score Point 1

The response demonstrates a partial understanding of the response of organisms, to environmental changes (e.g., changes in climate, hibernation, migration, coloration) and how these changes affect survival by completing one task presented in the item. This student describes that “when winter comes some animals in Pennsylvania store food” which is an acceptable answer. The second attempted description (in the winter people go hunting which would decrease some animal populations) is not an acceptable seasonal response. This response demonstrates a partial understanding and receives one point.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1. When it is winter, animals usually go into hibernation. When it's cold, they build a little home and sleep until spring.
2. In the summer, some animals are nocturnal. They sleep all day and come out at night.

A-5 Score Point 1

The response demonstrates a partial understanding of the response of organisms, to environmental changes (e.g., changes in climate, hibernation, migration, coloration) and how these changes affect survival by completing one task presented in the item. This student correctly describes that "when it is winter, animals usually go into hibernation." The second response describes that some animals are nocturnal which does not represent a response to a seasonal change. This description does not receive additional credit. Some information is incorrect, so this answer receives partial credit.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

- 1: Some animal will go into hibernation where they will store food and go to sleep till warmer weather, Then go on till next year. And eat better soon afterwards like bears, in the winter.
- 2: Other animals will not go to sleep but continuously look for food whether it is plants to much on or meat to savor. Much like Deer do in the winter.

A-6 Score Point 1

The response demonstrates a partial understanding of the response of organisms, to environmental changes (e.g., changes in climate, hibernation, migration, coloration) and how these changes affect survival by completing one task presented in the item. The student describes that "some animal will go into hibernation where they will store food and go to sleep till warmer weather." The second response does not clearly describe a response to a seasonal change (*not going to sleep but continuously looking for food*). This behavior is not clearly differentiated from normal animal behavior. This response contains some work that is unclear and receives partial credit.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: because some animals don't like certain weather
2: and some animals do

A-7 Score Point 0

The response provides insufficient evidence to demonstrate any understanding of the response of organisms, to environmental changes (e.g., changes in climate, hibernation, migration, coloration) and how these changes affect survival by completing none of the tasks presented in the item. The student describes that "some animals don't like certain weather and some do." Neither of the statements describes a way that animals respond to a seasonal weather change. No credit is given for this response.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: Well, when it's hot out or the suns out the wolves come out and find their food.

2: Well, when it's cold or raining the wolves find a place to stay warm.

A-8 Score Point 0

The response provides insufficient evidence to demonstrate any understanding of the response of organisms, to environmental changes (e.g., changes in climate, hibernation, migration, coloration) and how these changes affect survival by completing none of the tasks presented in the item. Both responses provided by the student attempt to describe an animal's response to a daily weather change. These types of responses demonstrate a misunderstanding of the given prompt. This response receives no credit.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: the animals know what to do during the kind of season,

2: they respond differently then humans do due to the weather,

A-9 Score Point 0

The response provides insufficient evidence to demonstrate any understanding of the response of organisms, to environmental changes (e.g., changes in climate, hibernation, migration, coloration) and how these changes affect survival by completing none of the tasks presented in the item. The answers provided do not give any specific animal responses. The idea that "the animals know what to do during the kind of season" does not receive credit without describing what the animals actually do. The second response continues with general information that also does not receive credit. No part of this response is acceptable for credit.

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Animals and Seasonal Weather Changes

Handscoring Training Set 1

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Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: One way is that animals go into hibernation during the cold winter months,

2: Another way is that mosquitoes come out to feed during warm summer days.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: Birds fly south for the winter so they can be in warmer weather and not cold here.

2: Mice travel into houses and people places because it is so cold during the winter.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: they loose hair

2: they stay warm.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: Hibernation

2: Store Food for the winter

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: They may react by be very cold because of the weather changing for the winter because they might not be used to it.

2: They are too hot because during the Spring, Summer, and sometimes Fall it gets way over heated.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: They hibernate in the winter.
They want warm areas. Not cold areas to freeze in.

2: They come back in the spring.
They come back because they can get food.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: One way that animals respond to the seasonal weather changes in Pennsylvania is by hibernating during the winter seasons.

2: Another way that animals respond to the seasonal weather changes in Pennsylvania is by knowing what animals to expect to be able to prey on during certain seasons with certain temperatures and characteristics.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: The deer sleep mostly during the winter. They also turn gray cause the climate.

2: Some deer are stupid cause they run in traffic. That's why you see them on the road.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: One way the animals respond to the seasonal weather changes in Pennsylvania is some hibernate.

2: Another way the animals respond to seasonal weather changes in Pennsylvania is the furs of some animals change.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: One way that animals respond to the seasonal weather changes in Pennsylvania is that they blend more or less because the leaves turn color.

2: Another way is it might be more difficult to find food for certain animals because they might blend in with the fall colors.

Subject: **Science** Item: **Animals and Seasonal Weather Changes** Grade 8

Name _____

Number	Score	Notes
T1-1		
T1-2		
T1-3		
T1-4		
T1-5		
T1-6		
T1-7		
T1-8		
T1-9		
T1-10		

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Animals and Seasonal Weather Changes

Handscoring Training Set 2

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Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

- 1: Birds in Pennsylvania fly south in search of warmer weather. Once it starts getting cold, they find warmer temperature because it is essential to their survival to be warm and to have a reliable food source. Once weather change warm again, they return.
- 2: In the winter, when cold weather sets in, frogs bury under mud and water and pond scum. They go into a deep sleep type phase. Once the weather warms they awaken.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1. Some mammals hibernate. That means they fall asleep during winter.

2. Other animals adapt to the different seasons, every season.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

- 1: Some animals when it's cold they don't feel like doing anything so they just stay home doing nothing.
- 2: But on summer lots of animals be in parks with their owners running around playing and having lots of fun.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: Most animals migrate between seasons.

2: Fish are still active.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: They hibernate when it is winter and they come out like around spring or summer and their business.

2: They stay in their homes when it is too hot and when it is too cold.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: In winter bears go into hibernation and sleep all winter.

2: In the spring deer fight each other over mates and receive new antlers.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: Hibernation

2: Fly South

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: The animals can hear to the seasonal weather changes.

2: The animals can see if the weather is changing.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: Some birds migrate north to warmer areas when it becomes winter here and then will come back in spring.

2: Bears eat more when it gets colder so then they can hibernate through the whole winter.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: they migrate

2: they hibernate

Subject: **Science** Item: **Animals and Seasonal Weather Changes** Grade 8

Name _____

Number	Score	Notes
T2-1		
T2-2		
T2-3		
T2-4		
T2-5		
T2-6		
T2-7		
T2-8		
T2-9		
T2-10		

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Animals and Seasonal Weather Changes

Handscoring Practice Set*

*Responses in this set do not have true scores. Apply scores based on scoring criteria.

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Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1. Animals respond by migrating to a warmer area because they can't survive in the cold.

2. Animals respond by adapting to the weather conditions because they aren't created to live in different habitats.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1. Some animals grow longer thicker hair/fur when it is colder so they keep warm. It is called their winter coat.
2. Other animals, like a bear hibernate until it gets warmer. Fish do nearly the same thing. They go deep down in the water until the water starts to get warmer.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: Some animals may hibernate when the weather gets cold and starts to snow.

2: Another way animals may react to weather is they may die because they don't hibernate and have no where to go so they die out in the cold.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: There are many ways animals respond to the seasonal weather changes in Pennsylvania. One way is because if some animals live in the heat weather and it cold they could die.

2: Another reason is because some of the animals food might not be growing at that time either.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1. One way an animal would adapt is a fox. Depending on what season a foxes coat will change color along with the season.

2. Another way an animal would adapt is that birds would fly to a warmer niler area once it started to get cold outside.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: In Pennsylvania the birds migrate south to warmer climates when the temperature is too cold for them in the winter.

2: Also, the leaves fall from the trees in the fall in Pennsylvania because of the drastic temperature change.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: They adapt to them.
Because ~~there~~ ~~no~~ ~~animal~~ ~~there~~ ~~are~~ used
to

2: They know when they
are coming so they adapt.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1. When it gets cooler outside animals go into hibernation.

2. Animals also gather food for winter since plants start to die.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1: Some animals migrate.

2: Some animals adapt to the weather.

Describe two ways that animals respond to the seasonal weather changes in Pennsylvania.

1. One way is they grow thicker fur or hair to stay warm

2. Another way is they could eat a lot of food during summer then hibernate in winter

Practice Set*

Subject: **Science**Item: **Animals and Seasonal Weather Changes**

Grade 8

Name _____

Number	Score	Consensus	Annotation
P-1			
P-2			
P-3			
P-4			
P-5			
P-6			
P-7			
P-8			
P-9			
P-10			

*Responses in this set do not have true scores. Apply scores based on scoring criteria.

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Animals and Seasonal Weather Changes

Handscoring
Training Sets 1 and 2
True Scores/Annotations

Training Set 1

Paper	Score	Comments
T1-1	1	Part 1: go into hibernation Part 2: no credit – feeding season of mosquitos is not a seasonal behavior
T1-2	2	Part 1: birds fly south for the winter Part 2: Mice travel into houses...because it is so cold during the winter (find shelter)
T1-3	0	Part 1: “they lose hair” is not specific enough to a seasonal change Part 2: not specific enough – what seasonal change helps them do this
T1-4	2	Part 1: hibernation Part 2: store food Student does not have to name season for full credit (but if they do, it must be correct)
T1-5	0	Part 1: No credit – being very cold is not an acceptable animal response to seasonal changes Part 2: No credit – getting overheated is not an acceptable animal response to seasonal changes
T1-6	2	Part 1: hibernate in winter Part 2: come back in the spring (come out of hibernation)
T1-7	1	Part 1: hibernating during winter Part 2: no credit for knowing what animals to expect to be able to prey on during certain seasons
T1-8	0	Part 1: sleep mostly during the winter implies hibernation – this is not a correct behavior of deer; this error detracts from the answer Part 2: no credit
T1-9	2	Part 1: some hibernate Part 2: furs of some animals change
T1-10	0	Part 1: “blend more or less because the leaves change color” is not a response of the animal, so it receives no credit (the change in color of the fur would be a response to seasonal weather change) Part 2: same incorrect idea—no credit

Training Set 2

Paper	Score	Comments
T2-1	2	Part 1: birds fly south and/or once weather change warm again, they return Part 2: frogs bury under mud and water...they go into a deep sleep type phase and/or once the weather warms, they awaken
T2-2	1	Part 1: hibernate Part 2: No credit – adapt to different seasons, every season is too general (what are the ‘adaptations’)
T2-3	0	Part 1: No credit – ‘stay home and do nothing’ is not an acceptable description of ‘hibernation’
T2-4	1	Part 1: most animals migrate between seasons (student does not lose credit for using the word “most”) Part 2: no credit for “fish are still active”
T2-5	2	Part 1: hibernate when it is winter and/or they come out around spring Part 2: no credit This paper gets two points for having two correct answers in part 1, because there is nothing incorrect in part 2.
T2-6	1	Part 1: bears go into hibernation Part 2: Incorrect. Spring is not the correct mating season for deer; fall is their mating season.
T2-7	2	Part 1: hibernation Part 2: fly south
T2-8	0	Part 1 and Part 2: No credit – student attempts to talk about how animals could identify a seasonal change
T2-9	1	Part 1: Incorrect. Birds do not migrate north to warmer areas in winter. Part 2: bears hibernate
T2-10	2	Part 1: migrate Part 2: hibernate