

Winter Adaptation

Question 1: There are already workshops that explore the concepts of Migration and Hibernation, so what is the strategy of Winter Adaptation? Give your definition below.

Question 2: What are some animals that adapt to meet the hardships of the Winter season?

What are some of the things that they do to meet the challenges of Winter?

Question 3: In the previous questions, you were asked to explain Winter Adaptation. Your definition probably referred to two different ways of coping with Winter. The first method we are going to explore is "Structural Adaptation." These are physical changes made by the animal that physically alter the animal. Which examples did you give in Question 2 that meet this type of change and how do these changes help the animal?

Question 4: There are other physical changes that have occurred in the animals adapted for the winter regions but are not as obvious unless one examines their cousin in other parts of the world. Below are two sets of animal cousins. List the physical differences between them and indicate which features benefit the colder environment.

Polar Bear vs Sun Bear

Pika vs Cottontail

Question 5: There are also physical changes that cannot be seen, but that do take place. One is called “countercurrent heat exchange.” What is this exchange and what does it allow the animal to do?

Question 6: Along with structural adaptation, the other adaptation animals can apply is “Habitat Adaptation.” These are alterations that the animal makes to its lifestyle in order to deal with the Winter changes to the area. Again, which examples did you give in Question 2 that meet this type of change and how do these changes help the animal?

Question 7: There are other changes that take place in animal populations that you may not have thought of. Think about our wintering bird populations and deer populations. What are they doing during this time period.

Question 8: The above question gives a response to how prey animals alter their lifestyle. How might a predator alter its lifestyle in the harsher winter climate?

Question 9: Hibernation and Migration are adaptations that the animals have made. Together they are referred to as Behavioral Adaptations. What are the text-book" definitions of both terms?
