

## Student Pages: Group Activity

### Polar Bear Science Team 3



For this activity, your group is the "Polar Bear Science Team 3". Your team is responsible for reading the scientific paper called "Can polar bears use terrestrial foods to offset lost ice-based hunting opportunities".

Step 1: Download this scientific paper from the Bear Trust International website:  
<http://beartrust.org/polar-bears-of-summer-2>

Step 2: Read this entire paper, but don't get bogged down in any statistical methods.

Step 3: As a Team, create a power point presentation about this paper that you will be giving to the rest of your class.

In this presentation, make sure to include AT LEAST the following:

1. Who were the authors of this paper, in which journal was this paper published, and in what year was this paper published?
2. Why are polar bears an iconic symbol of global warming?
3. What have polar bears historically eaten?
4. How long have we known that some polar bears eat some land-based foods?
5. How does the extended duration of the ice-free period correlate with polar bear body condition, weights, and survival? What does this mean for polar bears over the long term?

6. What are the potential polar bear limitations regarding foraging on land-based foods?
7. Evolutionarily, polar bears have evolved to eat diets rich in what?
8. List the different types of land-based foods that polar bears have been shown to eat.
9. Do the authors of this paper agree that land-based foods are more commonly eaten NOW by polar bears than they were BEFORE global warming was detected?
10. Do the authors of this paper suggest that land-based foods are widely available to polar bears?
11. IF polar bears increase their consumption of land-based foods, these authors state that polar bears will need to compete with brown bears for land-based foods. What do the authors state about this topic?
12. These authors reference the Gormezano and Rockwell 2013a paper. What did they say about it?
13. These authors referenced the calculations you did for Activity 4 in your "Student Pages: Individual Activities". What did they say about the number of "Seal Days" that the eggs could provide for a population of 900 polar bears in western Hudson Bay?
14. What do the authors of the paper you read say about the effects of land-based foods on polar bear demography (page 142).
15. Polar bears that are actively feeding require \_\_\_\_\_ times more energy than polar bears that are fasting. Why is this important?
16. What have studies of polar bear activity patterns in western Hudson Bay suggested? How much of their time do polar bears in western Hudson Bay spend feeding?
17. Describe why most land-based foods are not as energetically dense as marine prey. Why is this important?
18. What research needs to be done on polar bears?
19. Summarize the "Conclusions"

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