

Name _____



How Many Bears Can Live In This Forest?

PURPOSE:

- 1) Define major components of habitat
- 2) Define a limiting factor
- 3) Identify limiting factors including those influenced by people

BACKGROUND INFORMATION: There are four parts to any habitat: food, water, shelter and space in a suitable arrangement. Each part of a habitat may be a **limiting factor**. Limiting factors control the population of an organism in a habitat.

When any factor is inappropriate for an organism, it directly affects the well-being of the organism.

Bear habitats limit frog populations, especially through the influences of shelter, food supply, predators and other hazards, both people created and natural.

The availability of food and success in food gathering is influenced by factors such as the quality of the ecosystem; competition, the physical condition of the frog and changes in the weather.

Also, chemicals or other unnatural hazards may be present in the ecosystem.

MATERIALS:

1 bear stomach per person (paper bag)	Bear food scattered around activity area
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PROCEDURE:

1. On the signal move around the area to find your food.
 - o Pick up one piece of food at a time.
 - o Take the food back to your den.
2. Continue getting food until time is called.
3. Record the amount and kind of food obtained by you.
4. Record the amount and kind of food obtained by the other bears in the class.
5. Convert the numbers to percentages of the total amount of food gathered.

Data:

Bear	Nuts		Berries		Insects		Meat		Plants		Water		Total	
	Lbs.	%	Lbs.	%	Lbs.	%	Lbs.	%	Lbs.	%	Lbs.	%	Lbs.	%
1														
2														
3														
4														
5														
6														
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31														
32														
33														
34														
35														
Total														

Questions to think about:

1. Which bears survived?
2. Is there enough food to feed all of the bears?
3. How many pounds did the blind bear collect?
4. Will she survive?
5. What will happen to her cubs?
6. Will she feed her cubs first or herself?
7. Why?
8. What would happen to her if she fed the cubs?
9. What if she ate first?
10. If the cubs die, can she have more cubs in the future, and perhaps richer years?
11. How do the bear's requirements for a diet seem to compare with the needs of humans for a balanced and nutritious diet?
12. How many bears can this habitat support?
13. Why did only X number of bears survive in this activity?
14. Is that realistic?
15. What percentage of the bears survived?
16. What percentage would have survived had the food been evenly distributed?
17. In each case, what percentage would not survive?
18. How much food must be added for all of the bears to survive?
19. If enough food were available for all of the bears would the population likely increase the following year?
20. Why?
21. Other than food, what factors, natural or human-related, might also limit the growth of the bear population?
22. How would each of these factors affect the bear population?
23. Could the bear population increase indefinitely if unlimited food were available?
24. Why or why not?