Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block: \_\_\_\_\_\_\_\_

**O Deer! Activity**

**Overview & Objectives:**

* Students will become different components of an ecosystem and learn about habitat interactions in this kinesthetic learning activity. By graphing the results of this game, students can discuss topics in population dynamics, limiting factors, and carrying capacity.
* Students will understand animals' basic needs for survival: food, water, shelter, and space.
* Students will learn that limiting factors such as lack of resources or diseases naturally regulate animal populations.
* Students will understand that some population fluctuations are part of natural cycles.

**Activity:**

* Part 1 – Procedure
	1. Students are divided into two groups, one representing deer and the other representing the habitat components animals need to survive (food, water, and shelter).
	2. Students will line up along the line representing your group (deer or habitat components). [Your instructor will assign to which group you belong.]
	3. Students will learn the hand signals representing each of the three habitat components: food, water, and shelter.
		+ **Food**: Student clamps hand over his or her stomach.
		+ **Water**: Student places hands over his or her mouth.
		+ **Shelter**: Student holds hands together over his or her head.
	4. The instructor records the number of deer and the number of habitat components.
	5. Deer and habitat components turn their backs to each other and decide which component they will need/be for that season. (Deer decide what resource they need for the season and indicate what they are seeking with the appropriate hand signal. Habitat components determine which component they choose to be that season and indicate it with the appropriate hand signal. **Deer and habitat components CANNOT change their selection until the next “season” (round).**)
	6. Once both sides have chosen their hand signals, the instructor announces the start of the season and deer can run to the habitat component line and select the student that represents the component they are seeking. The deer and matching component return to the deer line, showing that the deer has met its needs for the season and reproduced successfully.
		+ A habitat component cannot move until a deer has claimed him or her.
		+ If a deer fails to find the habitat component he or she is looking for, then he or she dies and becomes part of the habitat.
		+ Habitat components taken to the deer line become deer in the next season.
	7. After the season ends, the instructor records the data, counting the number of deer and habitat components at the end of the season.
	8. Data is collected for 15 seasons.
* Part 2 – Discussion
	1. Discuss observations made during the game as a class.
	2. On a separate sheet of paper, take note of the data the instructor recorded during the game.
* Part 3 – Analysis
	1. Graph the deer population based on the data. Analyze any patterns. (Remember, each round represents a season in a deer’s life.) *[Be sure to title and label the graph.]*
	2. On the same graph, show the number of habitat components as a whole, using a different color. Look for any trends.

|  |  |  |
| --- | --- | --- |
| **Season** | **Number of Deer** | **Special Notes**  |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |
| 6 |  |  |
| 7 |  |  |
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| 12 |  |  |
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| 16 |  |  |
| 17 |  |  |
| 18 |  |  |
| 19 |  |  |
| 20 |  |  |

**Block \_\_\_\_\_\_\_**

*Total students: \_\_\_\_\_\_\_\_*



* 1. Did the deer populations fluctuate? Why or why not?
	2. What were some of the limiting factors that affect their survival?
	3. Are animal population static, or do they tend to fluctuate, as part of an overall “balance of nature?” Explain.