

Predator-Prey Lab

Name _____

This lab deals with several different aspects of the predator-prey relationship. Activity 1 will examine the success of a predator when competing with other predators. Activity 2 will examine how the number of prey affects the success of a predator. Activities 3 and 4 will examine the adaptations that some prey have developed and how the adaptations of a predator help it.

Activity 1

1. Please get one piece of blue cardboard.
2. Count out 75 poker chips.
3. Place the poker chips on the cardboard.
4. Select one person in the group.
5. Allow the person 20 seconds to pick up as many chips as possible. No sliding them!
6. Record the results below.

	Person 1	Person 2	Person 3	Person 4
# Chips Collected				

7. Repeat the activity, but with two people at a time this time. Record the results below.

	Together		Together	
	Person 1	Person 2	Person 3	Person 4
# Chips Collected each				

8. Repeat the activity, but with three people at a time this time. Record the results below.

	Person 1	Person 2	Person 3
# Chips Collected			

9. Repeat the activity, but with all four people competing for chips. Record the results below.

	Person 1	Person 2	Person 3	Person 4
# Chips Collected				

Activity 2

1. This activity is for all four groups' members again.
2. Count out 27 poker chips and place them on the blue cardboard.
3. In 20 seconds, collect as many poker chips as possible.
4. Record the results below.
5. Add 27 more chips (so that there are 54 total to start) and compete for another 20 seconds.
6. Record the results below.
7. Add 27 more chips (so that there are 81 total to start) and compete for another 20 second.
8. Record the results below.

	Person 1	Person 2	Person 3	Person 4
# Chips Collected (27)				
# Chips Collected (54)				
# Chips Collected (81)				

Activity 3

1. Obtain 1 piece of blue cardboard.
2. Gather 15 of each color of toothpicks (red, blue, and yellow & green).
3. There will be 4 predators at one time in this activity. They will compete with each other for 15 seconds to see who can pick up the most toothpicks (use only one hand and pick up the toothpicks one at a time).
5. Record the results in the following chart.
6. Increase the number of each color of toothpicks by 5. Repeat activity and record results below.
7. Increase the number of each color of toothpicks by 5. Repeat activity and record results below.

	60 toothpicks				80 toothpicks				100 toothpicks			
Person #	1	2	3	4	1	2	3	4	1	2	3	4
# of Red Collected												
# of Blue Collected												
# of Yellow Collected												
# of Green Collected												

Activity 4

Activity 4 is the same as activity three with one major difference. Two of the predators will have their thumbs taped, and two will not. Follow activity 3 directions with these changes and record the results below.

	60 toothpicks				80 toothpicks				100 toothpicks			
Person #	1 tape	2 tape	3 no tape	4 no tape	1 tape	2 tape	3 no tape	4 no tape	1 tape	2 tape	3 no tape	4 no tape
# of Red Collected												
# of Blue Collected												
# of Yellow Collected												
# of Green Collected												

Questions

1. What was the average number of chips collected by each person in activity 1?
2. What was the average number of chips collected when two people were collecting in activity 1?
3. What was the average number of chips collected when three people were collecting in activity 1?
4. What was the average number of chips collected when four people were collecting in activity 1?
5. How did this number change as the number of individuals increased?
6. How does activity 1 relate to predator-prey relationships?

7. In activity 2, what was the average number of chips collected?
8. How does this number change as the number of chips increased?
9. How does this relate to the predator-prey relationship?
10. In activity 3 and 4, which colors of toothpicks were picked up the most often?
11. In activities 3 and 4, which colors were picked up the least? Why do you think this is so?
12. How do you account for these differences in numbers?
13. Did taping your thumb make the activity harder or easier? Did you have to change/adapt how you picked up the toothpicks? How?
14. Would this activity be an example of two species competing for a limited resource? If yes, give evidence to support your answer.
15. How do activities 3 and 4 relate to the predator-prey relationship?