Name _____   Date _____

Predator – Prey: The Wolf and the Rabbit Game

Goal: To understand how predator-prey relationships affect population size and help create stability in ecosystems

Materials:

- 100 Rabbits
- 12 Wolves
- 50 cm X 50 cm Meadow

Game Rules:
1. At the beginning of each generation, there should always be at least 3 rabbits and 1 wolf.
2. If all the rabbits die, then 3 new rabbits will immigrate into the meadow.
3. If all the wolves die, then 1 new wolf will immigrate into the meadow.
4. A wolf must land on two thirds of a rabbit, in order to catch and kill a rabbit
5. Wolves must be dropped straight down and are not allowed to skid across the meadow
6. If a wolf catches one rabbit, it will survive but it must catch 3 rabbits, in order to reproduce
7. Each rabbit that is not caught, at the end, of a round will reproduce one rabbit

Directions
1. Use painter's tape to mark off a 50cm X 50cm "meadow" on your desk top.
2. Spread 3 rabbits out in the meadow.
3. Drop a wolf from a height of about 10cm to 15 cm.
4. Add additional rabbits to the meadow, based on the number of surviving rabbits.
5. Add additional wolves, based on if the wolf was able to reproduce.
6. Complete the data table for the beginning of the next generation.
7. Continue steps 3 through 6 for a total of 25 generations.
8. Graph your data with the number of rabbits on the Y axis and the number of generations on the X axis, using a colored pencil to connect the dots.
9. Graph your data with the number of wolfs on the Y axis on the right hand side of the page. The scale can be different for the wolves than it was for the rabbit.
10. Use a different colored pencil, from the one you used for the rabbits, to connect the dots.
11. Complete the analysis questions.

Data Table

Generation	# Rabbits	# Wolves	Generation	# Rabbits	# Wolves
1	3	1	14		
2			15		
3			16		
4			17		
5			18		
6			19		
7			20		
8			21		
9			22		
10			23		
11			24		
12			25		
13					

Analysis

1. What happened to the population of wolves, as the rabbit population increased?

2. What happened to the rabbit population, as the population of wolf increased?

3. Did the rabbit population continue to increase or decrease for the rest of the game? If not, describe what happened and why it happened.

4. In nature, what do you think would happen to the rabbit population if it continued to increase without any controlling factor like a wolf predator?

5. Explain how predator-prey relationships help maintain balance in ecosystems: