

# Foxes and Bunnies

## Population Dynamics

Name: \_\_\_\_\_

Period: \_\_\_\_\_

### Objectives:

1. To observe how a prey population size influences a predator population size, and vice versa.
2. To create a graph reflecting changes in population size of predators and prey.

**Investigative Question:** How does prey population size influence a predator population size?

### Hypotheses:

1. IF: \_\_\_\_\_  
THEN: \_\_\_\_\_  
BECAUSE: \_\_\_\_\_
2. IF: \_\_\_\_\_  
THEN: \_\_\_\_\_  
BECAUSE: \_\_\_\_\_

### Variables:

**Manipulated:** \_\_\_\_\_

**Responding:** \_\_\_\_\_

**Controlled Variable:** \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

### Pre-Lab Questions:

1. How many bunnies must a fox catch to survive to the next generation?
2. What is the minimum number of bunnies you can have at the start of generation?
3. What is the minimum number of foxes you can have at the start of generation?
4. For how many generations will you record data?
5. What is the maximum carrying capacity of the habitat for bunnies?

### Analysis:

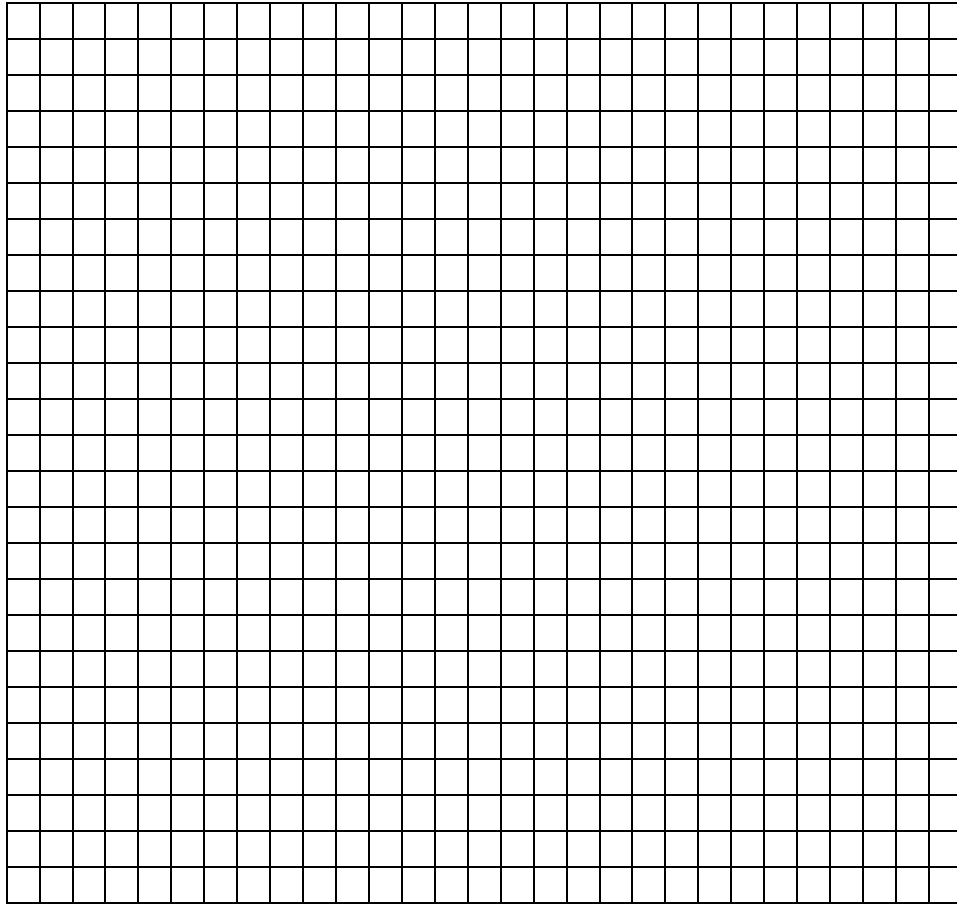
#### **Data Table:**

Gen #	Bunny Population	Fox Population
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Gen #	Bunny Population	Fox Population
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

Gen #	Bunny Population	Fox Population
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		

1. Create a graph of your data, use a different color to represent each species, make sure to include all important elements of a graph.



2. What does the shape of the data line for bunnies tell you about their population growth for the first few generations?
3. For which generations was the habitat at its carrying capacity for bunnies?
4. What was the population density of bunnies at the start of the first generation?
5. What was the population density of foxes at the start of the first generation?
6. Describe the general relationship between changes in the bunny population and the fox population over the course of 30 generations.
7. How might the introduction of a second small herbivore to the habitat effect the populations of the bunnies and of the foxes?
8. How might the introduction of a second small carnivore to the habitat effect the populations of the bunnies and of the foxes?
9. What does the Fox say?

**Conclusions:**

**TS:**

**CD:**

**CD:**

**CD:**

**CM:**

**CS:**