

Problems

1. What do you predict would happen to your results if your system was disturbed by some unforeseen, outside forces? To answer parts **a** and **b**, first draw the last cycle of your experimental graph free-hand. Continue graphing for at least three additional cycles to display your prediction.

a. Draw on your graph and explain here what would happen if some coyotes died of disease or were driven off by larger predators or hit by cars.

b. Draw on your graph and explain what would happen to the prey populations in the event of a fire, or of additional predators of another species moving in.

c. How would it matter at what point in your simulation such disturbances occurred?

2. Search the Internet to find how your simulation compares to data of predator-prey systems taken from nature, such as those of owls and mice, lynx and snowshoe hare in Maine, or the moose-wolf system on Isle Royal in Michigan.

a. Look for what general pattern exists for the data from nature.

- How does the predator population vary when the prey numbers change?

- Are the populations in phase with each other?

- Are the population curves similar in shape? How do the curves differ from each other?

b. Describe how your simulation data are similar or different. If your results are very different, explain why.
