



Lab

Predator-Prey Simulation

PURPOSE

- Simulate and analyze the interactions between a predator population of coyotes and a prey population of mice
- Organize and graph data from the simulation, predicting future populations over several generations
- Compare simulation results to data taken from nature, and apply revised simulation techniques to other population problems

INTRODUCTION

Predator-prey interactions in a population are usually a feedback system. The prey population has a positive effect on the predator numbers, but the predator population has a negative effect on the prey numbers. The predator-prey relationship can be represented as changing cyclically with a phase diagram, as shown in **Fig. 17-1**.

Fig. 17-1

Generalized Scheme of
Predator-Prey
Relationship in Cyclical
Change Through Time

