Animals of all varieties in nature will interact in large groups, and exhibit swarming behaviors. These swarming techniques are done for many various reasons including avoiding predation, collection of resources, and the search of food. In all of these instances, each individual in the group follows only a few simple rules, and the result is a swarm that can complete complicated tasks and lead towards interesting cyclic behavior. This study will show how we model these swarming behaviors by giving simple instructions to particles that represent different animals, and how this swarm intelligence can be used to solve optimization problems. In particular, we close out this study with an in depth exposition of Particle Swarm Optimization (PSO), which is a numerical algorithm that minimizes a function of n variables.