FOR STUDENTS

Black-footed Ferret Bottleneck Scenario

Names of Team Members: _____

Key to Genetic Characteristics

Yellow	camouflage
Black	precise vision
Orange	accurate sense of smell
Pink	strong claws and forearms
Dark Blue	inclination to disperse
Green	high agility
Purple	acute hearing
Red	healthy rate of reproduction
White	strong immune system

On your *Key to Genetic Characteristics*, circle the COLORS and GENES that your population received through the bottleneck.

1. Calculate the percentage of genetic diversity of your population.
Nine genes (colors) represent 100 percent genetic diversity in the original population.

_____ genes received ÷ 9 original genes = _____ (decimal) x 100 = _____ %

2. List the genetic characteristics (colors) that your population received through the bottleneck.

3. List the genetic characteristics that your population lost when it came through the bottleneck (colors not received).

4. Using the five environmental situations from Step 6 of the "Procedure" section, write a prediction about what will happen to your population during the coming year.

Is the population genetically equipped to survive in its environment? How well or how poorly? How does a high or low percentage of genetic diversity affect the population's survival? How do random changes in the environment affect the population?