# Types of Selection

Here are three examples. It is up to you to determine which type of selection, disruptive, directional or stabilizing will take place based on the information given. Draw the graph the represents the information and fill in proper titles.

Situation 1: Colors of Mountain Rabbits

In the upper part of the mountains there are a wide variety of rabbits. The environment is a mixture of white snow and black rocks. The rabbits are ranging in color from white to black. There are the bright white rabbits which are the color of snow, the light gray rabbits, the gray rabbits, the dark gray rabbits and the black rabbits which match the color of the rocks.

When the population began (as shown in the graph), there were mostly gray rabbits and fewer were on the more extreme ends of color. Think about our incomplete dominance problems from genetics. When we would cross two pink flowers we would end up with a 1 white: 2 pink: 1 red ratio. The same is true for these rabbits.

of
rabbits

Disruptive

Bright white   gray   black
color of rabbits
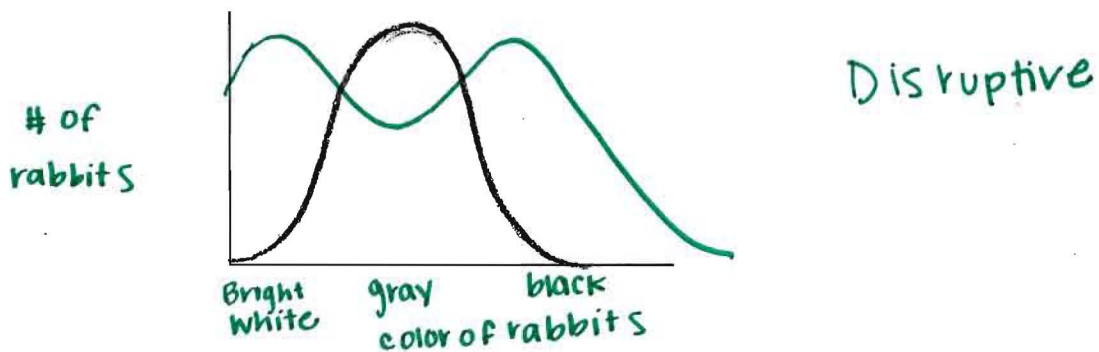
Situation 2: Leg Length in Gazelles

In the African Safari gazelles are the prey of the lioness. The only way in which these animals are able to escape their predators is by running. The length of the gazelles legs varies greatly. Some have super short legs. Others have shorter than average legs, average sized legs and longer than average sized legs. Still others have long legs.

When the population began (as shown by the graph), most had the average length of the legs. Fewer were on the more extreme ends of the length spectrum. Will this remain true after many generations?

Directional

Super short   average   long
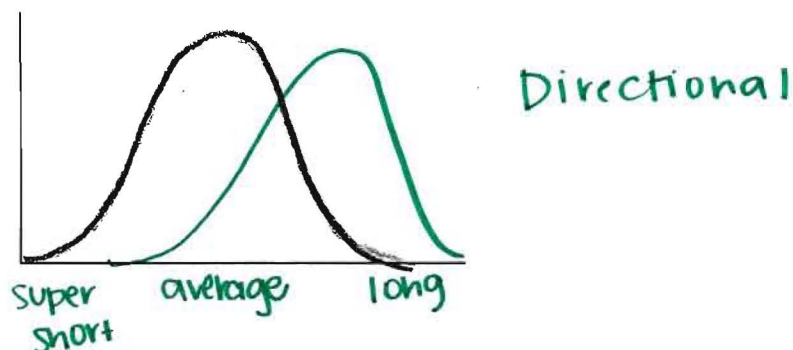
Situation 3: The Size of Gophers

Gophers live in this area and they are able to escape their predators by running and diving into the small tunnels that they have made. Getting to these tunnels and getting into these tunnels is crucial to their survival. The area has a wide variety of gophers. There are small ones that are skinny with short legs, large ones that are fatter with long legs and gophers of all sizes in between.

When the gophers migrated here, most were average sized. Fewer were on the more extreme ends of the size spectrum. Think of how many people in class are averaged height versus how many are extremely tall and extremely short. This greater number of average phenotypes should make sense.

# of gophers

Skinny Short   average   Fat long

Stabilizing