

Patterns of Natural Selection Worksheet

Define the following terms:

1. stabilizing selection _____

2. directional selection _____

3. disruptive selection _____

Write the correct type of selection below (Disruptive, Directional, or Stabilizing). Then draw what you would expect on the graph.



Starlings produce an average of five eggs in each clutch. If there are more than five, the parents cannot adequately feed the young. If there are fewer than five, predators may destroy the entire clutch. As a result, five eggs becomes the most common clutch size.



Seed cracker birds have either large beaks or small beaks. They do not have medium sized beaks because medium sized beaks do not allow for adequate cracking of seeds.



A scientist measures the circumference of acorns in a population of oak trees and discovers that the most common circumference is 2 cm. There are very few acorns with circumferences of 3 cm or circumferences of 1 cm. Only the 2 cm circumference acorns survive.



A population of Madagascar hissing cockroaches lives in a woodpile. The cockroaches are eaten by lizards. Because the lizards have small heads, the lizards are unable to eat the very largest adult cockroaches, and instead prey upon small and medium sized adults. Over time, only the large headed lizards survive.



Female birds that lay close to the optimum number of eggs have the most surviving offspring. Those that lay fewer or more eggs have lower relative fitness.



A population of birds with various size beaks eats seeds. Small seeds can be eaten by birds with small beaks. Larger, thicker seeds can only be eaten by birds with larger, thicker beaks. During a drought, only large thick seeds exist so only the large, thick-beaked birds survive.



Black rabbits (BB) and white rabbits (bb) are both able to survive because they can camouflage into the white and black rocks in their environment. However, the intermediate gray rabbits (Bb) do not survive. This results in only white and black rabbits.

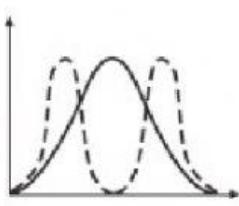


Small lizards have difficulty defending territories so they end up dying out. Large lizards are more likely to be preyed upon by owls. Over time, only medium sized lizards end up surviving.

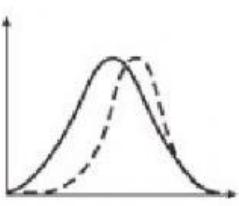


Women often have complications during labor while giving birth to very large babies, whereas very small babies tend to be underdeveloped. As a result, medium sized babies are the ones that end up surviving to adulthood.

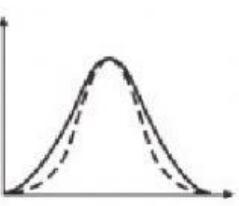
Label the three types of selection illustrated by the graphs below.



a _____



b _____



c _____

Name _____ Per _____