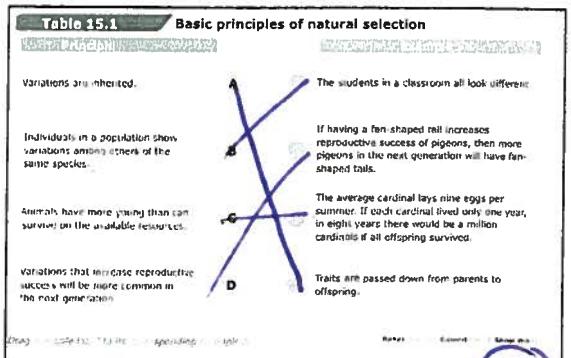
Four Principles of Natural Selection

- Individuals in a population show **variations**.
- Variations can be **inherited**. (Genes)
- **Overproduction** - organisms have more offspring than can survive on available resources (struggle to survive).
- Variations that increase **reproductive success** will have a greater chance of being passed on.

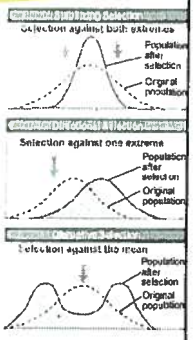


Darwin's theory of Natural Selection is one explanation of evolution.

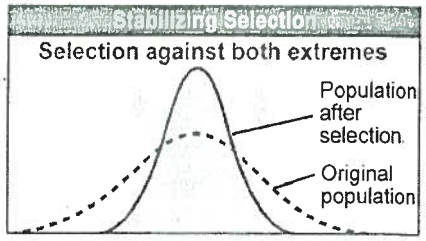
↳ Change in organisms over time

Natural Selection "Survival of the Fittest"

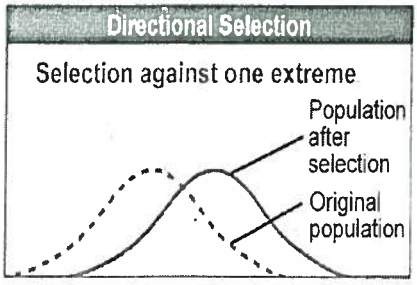
- Organisms with the best traits for their environment will most likely be able to reproduce and survive passing the desired traits on to offspring.
- 3 types of Natural Selection



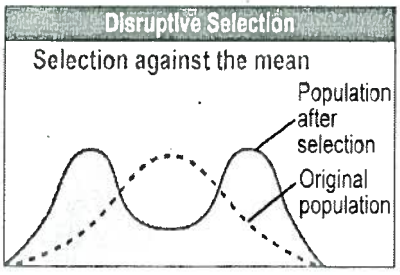
- Stabilizing selection being average is best.



- Directional selection one extreme is best.



- Disruptive selection both extremes is good being average is bad.



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Name_____

Hour_____

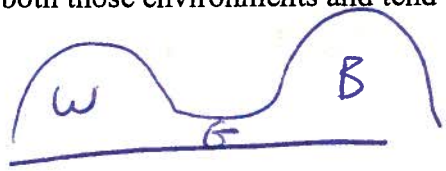
Date_____

3 Types of Natural Selection: Stabilizing, Directional, or Disruptive Selection

Directions: Write the type of natural selection illustrated by each example below. Write a brief explanation about why you chose the type you did.

1. Black rabbits can survive and are hard to see on black rocks. White rabbits can survive and are hard to see on white rocks. Gray rabbits can be seen in both those environments and tend to get eaten by predators.

Type Disruptive **Reason:**



2. Back before modern medicine, large babies were hard to birth and tended to die during birth. Small babies got sick after birth and died due to infection or underdeveloped organs. Babies in the average weight range survived.

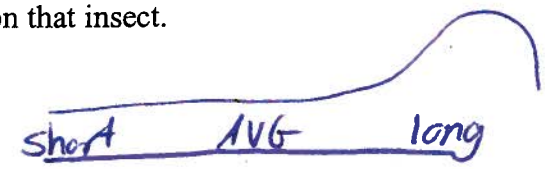
Type Stabilizing **Reason:**

3. Large spiders are easy for predators to see and cannot move quickly. Small spiders have a difficult time finding food. Average-sized spiders can move quickly, are hard to see, and can find food.

Type Stabilizing **Reason:**

4. A species of insect that lives deep in tree tissues invades trees in a woodpecker population's territory. Only woodpeckers with long beaks can feed on that insect.

Type Directional **Reason:**



5. Successful male peacocks have big tail feathers and bright colors, whereas females are very drab and brown, with small tail feathers. Males with smaller tail feathers and dull color are less likely to find a mate and successfully reproduce.

Type Sexual **Reason:** Attraction to mate

6. Bacteria used to be very susceptible (were killed) to antibiotics. However as time goes on, more and more bacteria are becoming resistant to the antibiotics we use to try to kill them. Methicillin-resistant *Staphylococcus aureus* (MRSA) is an example of the evolution of Staph bacteria.

Type Directional **Reason:**