

# Natural Selection

Directional, Stabilizing and Disruptive Selection

Natural Selection

**SURVIVAL OF  
THE FITTEST**

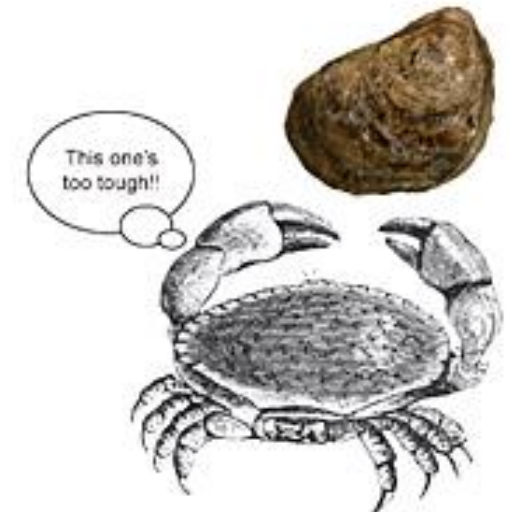
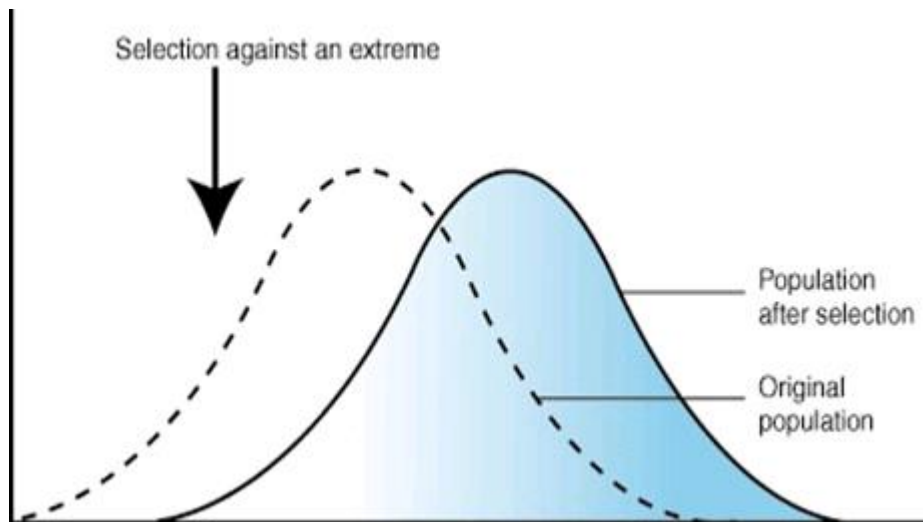
# Natural Selection – main ideas

1. **Variation:** there is variation within a species (different phenotypes exist)
2. **Heredity:** some of these variations will be inherited by offspring.
3. **Overproduction:** more offspring are produced than can survive
  - Safety in numbers
4. **Limited resources:** competition exists for food, space, mates.
5. **Fitness:** some individuals are more ‘fit’ than others
  - Those more ‘fit’ are better adapted and will survive to reproduce.
6. **Genetic composition:** the ‘fitter’ individuals will survive and be more numerous in the following generations.

# 3 Different Types of Selection

**1. Directional Selection** – happens when natural selection favors one extreme variation (ex. harder shell, softer shell).

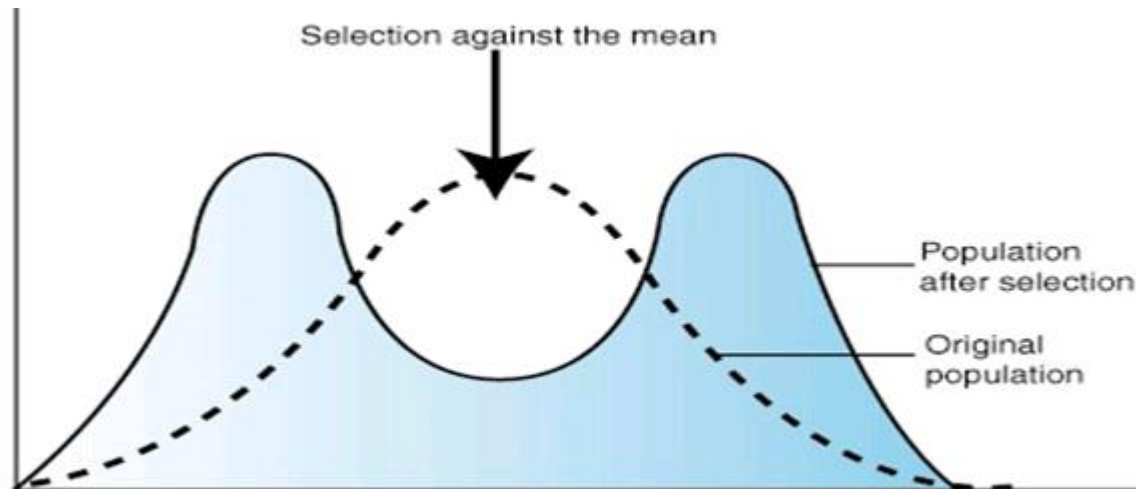
- Over time, the favored extreme will become more common and the other extreme will be less



# 3 Different Types of Selection

**2. Disruptive Selection** – happens when individuals with either extreme variation are selected and survive (ex. *very* light or *very* dark colored)

Disruptive Selection



# 3 Different Types of Selection

**3. Stabilizing Selection** – happens when individuals with intermediate (in between) variations are selected and survive (ex. *medium* shades of oysters)

Stabilizing Selection



Light ones are easily noticed by birds



Dark ones are easily noticed by birds

