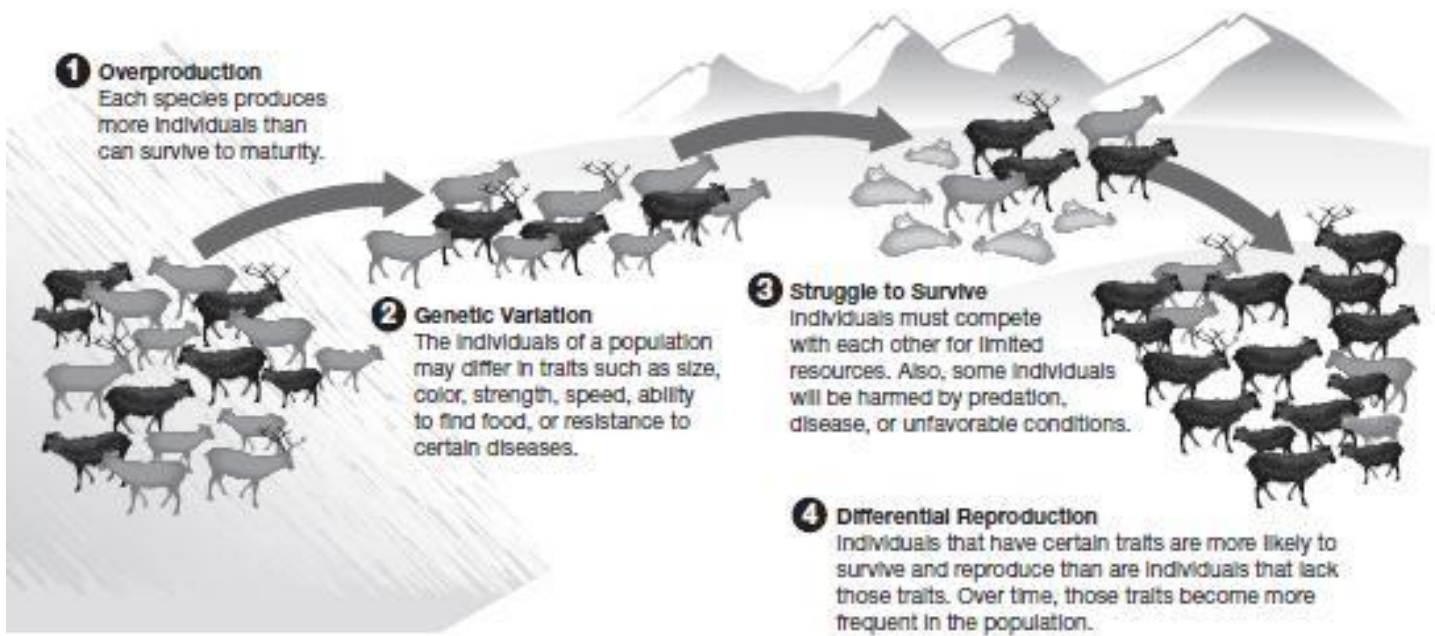
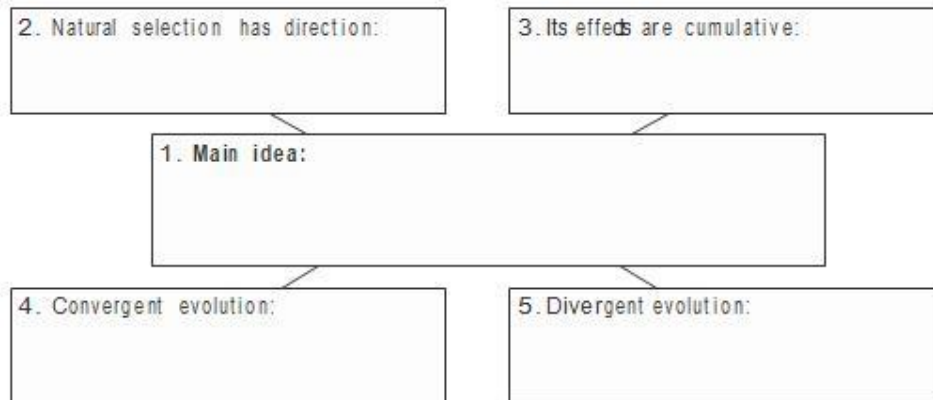


Evolution is a change in the characteristics of a population from one generation to the next. Darwin proposed that evolution happened due to natural selection. Natural selection is the process by which individuals that have favorable variations and are better adapted to their environment survive and reproduce more successfully than less well adapted individuals do. Over many generations, natural selection can result in the evolution of new species, which is called speciation. The diagram below shows how natural selection changes populations.

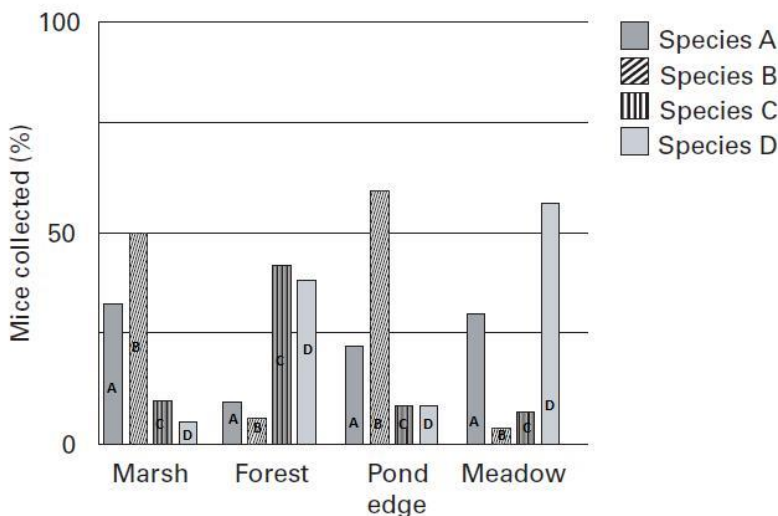


(Source: Holt McDougal Biology 2012 Test Prep)

1. **Make a vocabulary burrito** for the following terms: fitness, adaptation, variation, overproduction, , artificial selection, natural selection, heritability, directional selection, disruptive selection, stabilizing selection, punctuated equilibrium, adaptive radiation.
2. Complete the main idea web about Natural Selection. Start in the middle (#1) describing the concept of Natural Selection.



3. Punctuate means to —interrupt periodically. How does this meaning apply to the term punctuated equilibrium?
4. An isolated population of termites lives in a tree located in a pine forest. These termites feed on dead wood from the tree. This food is broken down by a species of bacteria that lives inside the intestines of the termites. Without the bacteria, the termites cannot obtain the nutrients they need to survive. One spring, a virus causes most of these bacteria to die. According to the theory of natural selection, what will most likely happen to the termites as a result of the absence of bacteria?
  - a. The termites will find a different food source.
  - b. The termites will develop a new species of bacteria.
  - c. The termite population will decrease to a level near extinction.
  - d. The termite population will evolve immediately into a new species.
5. The graph below shows different mouse species collected in different habitats. The percent of mice collected is representative of the reproductive success of each species.



Using the information in the graph, which mouse species is best adapted to wet environments?

- A) Species A
- B) Species B
- C) Species C
- D) Species D