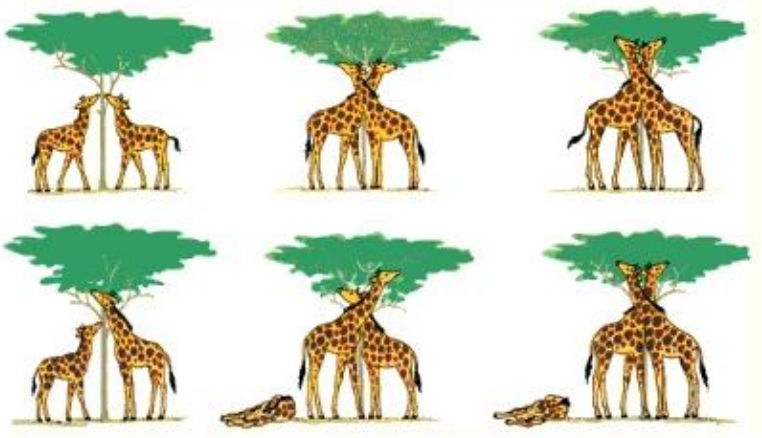
1. **Define** evolution.

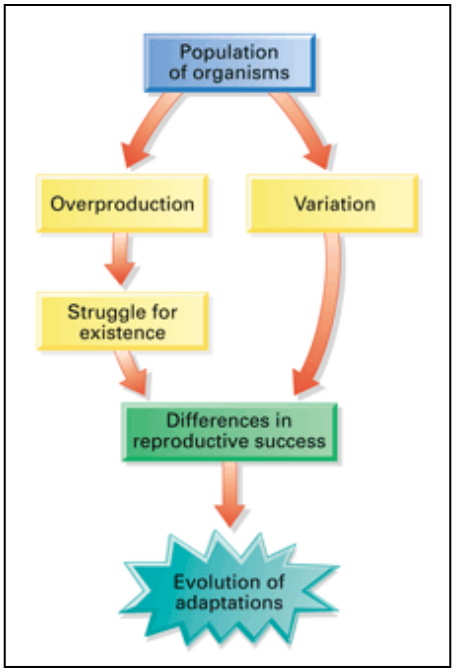
2. It is important to **know and understand**:
   - ⇒ How Lamarck's view of the mechanism of evolution differed from Darwin's.
   - ⇒ The role of adaptations, variation, reproductive success, and heritability in evolution.
   - ⇒ Several examples of evidence for evolution.
   - ⇒ The difference between structures that are homologous and those that are analogous, and how this relates to evolution.
   - ⇒ The three ways that natural selection can alter allele frequencies.
   - ⇒ The major factors in nature that alter allele frequencies and bring about most evolutionary change.

3. **Summarize** the differences between the proposed mechanisms of Lamarck and Darwin on how evolution occurs:

Lamarck's Idea / Mechanism	Darwin's Idea / Mechanism



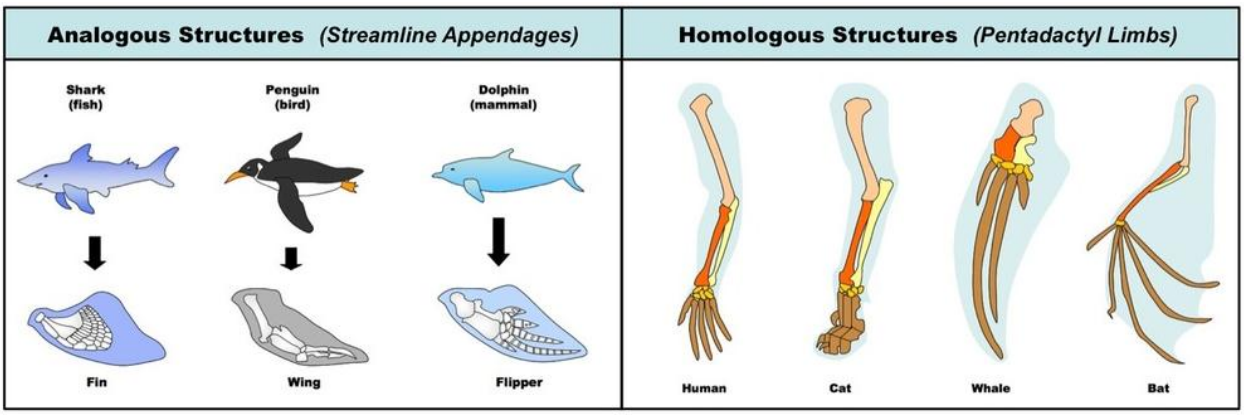
4. What is an adaptation? **Provide an example**.



5. **Describe** what the "fitness" of an organism measures?

6. **Discuss** one type of scientific evidence used to support the theory of evolution.

7. **Differentiate** between an analogous and homologous structure. **Summarize** the examples below.



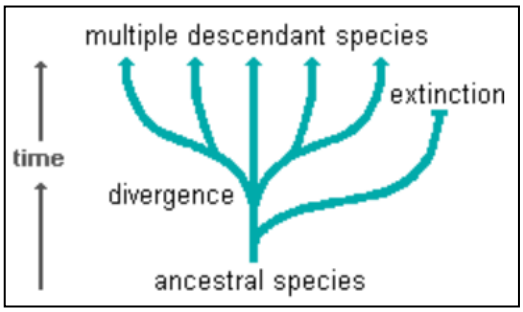
8. **Draw** and **describe** the graphs for the three modes of natural selection:

	Draw the Graph	Describe the Event	Provide an Example
Directional Selection			
Disruptive Selection			
Stabilizing Selection			

9. **Discuss** how each of the following causes changes in allele frequencies:
   - ⇒ Genetic Drift:
   - ⇒ Gene Flow:
   - ⇒ Sexual Selection:

10. **Define** speciation. When does it generally occur?

11. What is an "adaptive radiation?" **Explain** how the mass extinction of one group can lead to adaptive radiations in other groups.



12. **Draw** and **summarize** the three patterns of evolution: divergent; convergent; and coevolution. Give a relevant biological **example** of each.

13. What is the difference between gradualism and punctuated equilibrium? **Summarize** the diagram below.