

Name _____

Per. _____

**Biology Homework Chapter 9; *Evolution: Patterns and Diversity*
Pages 221 - 237**

Answer the questions with complete thoughts!

* **Sections 9.1 and 9.3: Diversity, Variation and Evolution.** Read pages 222 to 226

PART A: Define the terms in your own words.

(Section 1)

DIVERSITY _____

SPECIES _____

REPRODUCTIVE ISOLATION _____

(Section 2)

VARIATIONS _____

NATURALIST _____

EVOLUTION _____

PART B:

1. What is meant by “unity of pattern”, and give 3 pieces of evidence to support this idea.

2. How do species remain distinct from one another?

3. Who was **Charles Darwin** and in general what was the importance of his work?

PART C:

1. Read, study and know pages 221 - 226. Answer questions **1 through 5** in the **CONCEPT REVIEW on page 226**. Please number your response, and answer the questions in complete intelligent thoughts.

* **Sections 9.4 and 9.5: Evolution and Natural Selection.** Read pages 227 - 231

PART A: Define the terms in your own words.

ARTIFICIAL SELECTION

NATURAL SELECTION

ADAPTATION

PART B:

1. In *natural selection* what is doing the selecting? Give an example in nature to support your response.

2. Explain why *Lamarck's* idea of acquired traits(characteristics) is incorrect. Include an example.

3. Name the boat that Darwin traveled on, and name the book that he wrote as a result of his trip.

4. Who was *Alfred Wallace*? How is he related to Darwin's work?

5. Explain how *H.D Kettlewell's* Peppered Moth experiment is evidence to support **natural selection**.

PART C:

Read, study and know pages 227 - 231. Answer questions **1 through 3** in the **CONCEPT REVIEW on page 231**. Please number your response, and answer the questions in complete intelligent thoughts.

* **Sections 9.6 and 9.8: Evolution and Genetics.** Read pages 227 - 237

PART A: Define the terms in your own words.

(Section 1)

MUTATION

GENESTIC RECOMBINATION

GENE POOL

(Section 2)

ALLELE FREQUENCY

GENETIC DRIFT

SPECIATION

PART B:

1. What is the only way that variations can be passed onto offspring?

2. How many genetic combinations are possible in one child?

3. What are three major sources of variability required for the process of *evolution* to occur?

4. Why is variation required for evolution? **Explain in your own words.**

5. Study **figure 9.14** on page 233. Answer the two questions in its caption.

6. Name and describe the five factors that can change the *gene frequency* of a population.

7. Why is isolation needed for speciation? Describe the Kaibab and Abert Squirrels; **figure 9.17 on page 235** as an example.

8. Compare and contrast *Gradualism* and *Punctuated Equilibria*.

PART C: Human Evolution.

1. When and where did they [early hominids] first appear?

2. What group of early hominids are the direct ancestors to humans?

3. What anatomical/physiological changes in early hominids gave rise to the genus *Homo*?

4. What species of *Homo* did we [*Homo sapien*] replace? Approximately how many years ago?

5. Recent developments suggest that “miniature humans” existed on a small island in Indonesia at the same time as modern humans. What might explain why this population remained *little in stature*?