

1. Which is true of Gregor Mendel?

- A. discovered the chromosome
- B. he founded a university school of heretical studies
- C. met Darwin
- D. discovered that each of the traits he studied in peas had two factors of inheritance: one from each parent
- E. proved that the concept of inheritance as irreversible blending was true

2. The fact that any attempt to crossbreed donkeys and horses results only in a sterile animal (called a mule) is proof that (in regard to these two animals):

- A. Mendel was wrong about genetics.
- B. Darwin was wrong about evolution.
- C. Linnaeus was wrong about classification.
- D. they belong to the same species.
- E. they belong to two different species.
- F. mules are their common ancestors.

3a. He was Darwin's "Bulldog", who defended his ideas against those who opposed evolution

- Lamarck
- Malthus
- Spencer
- Huxley
- Wallace
- Lyell
- Mendel

3b. Who "discovered" mutations and wrote of how they could be preserved in future generations of plants?

- A. Gregor Mendel
- B. Hugo De Vries
- C. Charles Darwin
- D. Francis Crick
- E. Alfred Russel Wallace

4. Which is true about natural selection?

- A. It works because some favored individuals have more offspring than others
- B. Both Darwin and Wallace thought of it
- C. by itself it tends to reduce variation
- D. It cannot work if there is no variation
- E. ALL of these are true

5a. Your overall physical appearance, what we can see, measure, and test for, is called your:

- A. genotype
- B. gene pool
- C. phenotype
- D. chromotype
- E. phene pool

5b. This refers only to an allele that is always expressed in a hybrid individual:

- A. Homozygous
- B. Mutation
- C. Dominant
- D. Recessive
- E. Zygote

6. Charles Darwin knew his own theory was incomplete because it lacked explanations both of how inheritance was not blending, and of why:

- A. dominant genes were more common.
- B. variation did not disappear.
- C. all mammals have nipples.
- D. human anatomy was similar to that of apes.
- E. evolution was slow and gradual.

7. Darwin's theory of evolution included all these ideas except one:

- Inheritance of acquired characteristics
- Natural selection
- Descent from a common ancestor
- Adaptation of a species to environmental change
- Variation among members of a species
- Differential reproduction

8. When Mendel crossed pure bred tall (dominant) pea plants with pure bred dwarfs (recessive), what were the plants like in the next generation? Why?

9/10. (2 points) Explain how Natural Selection could work on a single species of short-necked giraffes so that they could evolve necks longer than any of the original giraffes. Don't forget the concepts of variation and differential reproduction.

FIRST NAME _____ LAST NAME _____

Bonus question: How was Lamarck's explanation of the evolution of the long necks different from Darwin's?