

1. If you get identical copies of a certain gene from both parents, you are said to be:

- A. a carrier B. homozygous C. heterozygous D. a hybrid E. polymorphic F. Confused

2. The alternate, variant forms of a gene that already exist in the gene pool are called:

- A. Chromosomes B. Covenes C. alleles D. gametes E. nucleuses

3. The meaning of "Creation Science" (or "Scientific Creationism") in the video we saw is:

- A. The belief that God is responsible for the Big Bang 10 billion years ago.  
 B. The knowledge gained from reading the Bible.  
 C. A body of scientific evidence that (supposedly) supports the hypothesis that the earth is about 10,000 years old.  
 D. Any belief in a creation by a superior being.  
 E. The modern theory of evolution based on Darwin and genetics.

4. Sickle cell anemia persisted in high malaria environments for thousands of years because:

- A. natural selection favored heterozygous carriers B. People with normal hemoglobin were not as fit there  
 C. humans changed the environment through farming, and that caused an evolutionary response in humans  
 D. The malaria plasmodium does not thrive as well in slightly anemic people.  
 E. all of the above are part of the chain of causality.

5. In the video we saw, the "human footprints" found with dinosaur prints turned out to be:

- A. Real (humans did walk with dinosaurs) B. fakes placed under water C. miracles  
 D. 3-toed dinosaur prints with a deep heel impression E. prints of alien visitors from another planet

6. 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

7. The Allele for shortness in peas is a recessive. When Mendel crossed pure-bred tall pea plants with short ones, the hybrids were:

- A. all tall B. all short C. in the ratio of 3 tall to 1 short D. two-thirds tall, one third short E. All intermediate

8. Human sperm are examples of:

- A. zygotes B. cells produced by mitosis C. gametes D. cells with 46 chromosomes E. diploid cells

9. Which is true about mutations?

- A. when the environment changes, beneficial mutations always occur to prevent extinction.  
 B. When the environment does not change, no mutations will occur.  
 C. Mutations are the source of new variations  
 D. mutations that happen to adults during mitosis will be passed on to their children  
 E. All of these are true

10. This refers only to an allele that is always expressed in a heterozygous individual:

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

11. What is the type of cell division that produces four cells of 23 chromosomes from one cell of 46?

- A. Mutation B. Mitosis C. Protein synthesis D. Replication E. Meiosis

12. The fact that hidden recessives can reappear in future generations is proof that inheritance is:

- A. Irreversible blending B. Particulate in nature C. Acquired characteristics D. All of these

13. Which is TRUE about PROTEINS?

- A. A different allele of a gene can produce a different version of a protein  
 B. Every gene is a recipe for a protein  
 C. A protein is a molecule made up of a long string of amino acids  
 D. Some proteins are structural (such as collagen), the building blocks of cells and tissues  
 E. Some proteins are enzymes and hormones, molecules that control physiology and development  
 F. All of these are true

14. Which is FALSE?

- A. DNA stands for deoxyribonucleic acid  
 B. The arms of chromosomes are DNA in the form of a long ladder wound in a helix  
 C. In protein synthesis, RNA carries the code to the site outside the nucleus where proteins are made  
 D. Other RNA are the molecules that assemble the string of amino acids from the tRNA code  
 E. Humans have 48 chromosomes

15. Two individuals who are heterozygous for the sickle cell allele marry; which is true?

- A. They can produce children of four different genotypes for the hemoglobin gene  
 B. 25% of their kids are likely to be victims of full blown sickle cell disease  
 C. All of their children will be carriers of the sickle cell trait  
 D. Only Africans and their descendants are carriers.  
 E. Half of their kids are likely to be homozygous for the normal form of hemoglobin

16. Which is NOT one of the four factors that cause evolutionary change?

- A. Random genetic drift B. Gene flow C. Gene pool D. mutations E. Natural selection

17. In the 1920's, Tennessee schoolteacher Scopes was tried for teaching evolution; what happened?

- A. He was convicted, paid a fine, and teaching evolution continued to be illegal in many states for decades.  
 B. He was found innocent, and evolution was then legal.  
 C. The jury was deadlocked, so the US Supreme Court found Scopes innocent  
 D. He was found innocent because he also taught strict Creationism, but all courts ruled then and now that creationism must be taught alongside evolution in public schools

18. The exchange of genes between and among populations is called:

- A. Random genetic drift B. Gene pooling C. Gene flow D. Natural selection E. Mutation

19. In the year 1900 three men rediscovered Mendel's work; one of them also discovered mutations:

- A. Darwin B. de Vries C. Futuyama D. Huxley E. Gish F. Spencer

20. Social Darwinism, the idea that human societies that win at war are 'better', came from the ideas of:

- A. de Vries B. Wallace C. Huxley D. Mendel E. Spencer F. Fitzroy

PRINT YOUR FIRST NAME \_\_\_\_\_ LAST NAME \_\_\_\_\_

Bonus: We call it the Synthetic Theory of Evolution; does 'theory' mean it is just a guess? Explain.