**Evolution Practice Test**

**Multiple Choice**

1. The unit upon which ***evolution*** acts most directly is a(n):
   1. individual
2. population
3. cell
4. species
5. race
6. The wing of the bat and a human’s arm are very different in appearance and function. Yet, the underlying anatomy is basically the same. The similarity of these forelimb structures is evidence that both humans and bats.
   1. share a common ancestor
   2. are members of the same genus
   3. once used their forelimbs in similar ways
   4. evolved from each other
   5. are genetically very similar
7. After many generations, an insect species evolved resistance to a particular pesticide. This occurred because spraying pesticides.
   1. killed most of the insects in the population
   2. caused mutations in the insect species’ gene pool
   3. caused another insect species to go extinct
   4. selected for insects that were able to survive and reproduce
   5. allowed another species to take over its niche
8. In a population, natural selection acts on
   1. hereditable differences
   2. genetic mutations
   3. homologous structures
   4. analogous structures
   5. all of the above
9. Which of the following is the best explanation for the presence of light-colored lizards in White Sands region of New Mexico (where the sand is white) when darker lizards live in the surrounding areas?
   1. light-colored lizards are more likely to survive and reproduce in the White Sands region
   2. light-colored lizards are replacing all of the darker lizards, regardless of the environment
   3. mutations in the White Sands region resulted in more lizards having a lighter color
   4. light-colored lizards prefer the White Sands environment, and darker lizards dislike it
   5. none of the explanations above are correct
10. Which describes natural selection?
    1. some live and some die in each generation
    2. only the largest and strongest survive
    3. random assortment of genes results in better characteristics in the following generations
    4. the best adapted individuals survive and reproduce, contributing the most to the next generation
11. In order for a mutation to be passed on to the next generation it needs to occur in the:
    1. Sperm
    2. Anywhere in the individual
    3. Egg
    4. Either A or C
12. Scientists believe that drastic changes in animals can occur, such as a fish evolving into an amphibian. What evidence do they have that suggests this?
    1. The age of the Earth (as this process would require a lot of time!)
    2. Fossils that show a transition of changes through time
    3. Comparing DNA sequences between organisms
    4. Vestigial structures in currently living organisms
    5. All of the Above
13. With the exception of identical twins, every human is different. Variation in genetic traits is caused by:
    1. Sexual Reproduction
    2. Random mutations in sperm or egg cells
    3. Random mutations in adults
    4. Both A and B
14. The hypothesis that evolution occurs at an irregular rate (not much action and then a rapid change) through geologic time is known as
15. directional evolution.
16. directional equilibrium.
17. punctuated equilibrium.
18. punctuated evolution.

**True/False**

Decide whether each statement is True or False. On the line beside the number for each statement, write either the letter T for True or F for False.

T 1. The pelvis and femur of a whale are examples of vestigial features.

T 2. The hand of a mole and the leg of a horse have different purposes but a similar underlying bone structure. This is an example of a homologous structure

T 3. Darwin proposed that natural selection takes place as individuals best suited to their conditions survive and reproduce.