Discovering Origins: Unit 2 Exam Answer Key

(72 points possible)

Vocabulary (2 points each):

Write the definition in your own words, or the definition you remember from the material.

1. Transitional fossils are fossilized specimens of an animal evolutionists believe shows the evolutionary lineage between one animal and another.

2. A species is part of Carl Linneaus' classification system (Kingdom-Species), meant to help delineate between different types of plants and animals. Some species can breed with other species (such as certain types of birds or bears), while other species are more isolated.

3. A kind is a God-given delineation (or classification system) between different animals. The Bible says that animals can only reproduce after their kind, or, in other words, animals can not breed outside of their kinds.

4. A baramin is a man-made term taken from the Hebrew words *bara* and *min*, meaning "created kind."

5. Vestigial Organs are organs that are or were thought to have no use in the modern human or animal, but are "leftover" from a previous evolutionary ancestor.

True / False (2 points each):

Circle **T** or **F**.
If it is true, give a one sentence response explaining why it is true.
If it is false, correct the statement to make it true.

1. (T) / F How we say something is just as important as what we say.
   Our attitude, facial expression, and tone of voice can overpower what we say; for example, it doesn't matter if one speaks the truth if one does it in anger or arrogance.

2. T / (F) Christians should repeat any argument, as long as it "debunks" evolution.
   Christians should verify all arguments to verify that the argument true.

3. (T) / F If a muscle were truly vestigial, it would shrink over time.
   If one breaks his leg and has it in a cast for weeks, the muscle will shrink from lack of use; just as a truly vestigial (unnecessary) muscle would.

4. T / (F) Beneficial mutations usually create new genetic information.
   Beneficial mutations typically lose a piece of genetic information.

5. (T) / F Chimps have more base pairs in their genome than humans.
   Chimps have ~3.23 billion base pairs in their genome, while humans have ~3.09 billion base pairs.

6. (T) / F Artificial selection in dogs results in an overall loss of genetic information.
   When breeders select for certain traits in dogs, such as short fur, they breed out (lose) unwanted information, such as long hair.

7. (T) / F The Laetoli footprints show a human-like walking pattern.
   The Laetoli footprints have a clear left-right stride unique to humans, as well as a human-like arch and shape of the foot.

Multiple Choice (1 point each):

Choose the response that best answers the question.

1. Why do DNA similarity percentages often appear higher than they really are?
   - A. Mutations are ignored
   - (B.) Only similar regions are compared
   - C. Human DNA is longer
   - D. Computers exaggerate results
2. Which feature most strongly indicates Lucy was adapted for arboreal life?
   - A. Brain size
   - B. Foramen magnum position
   - C. Tooth shape
   - (D.) Curved fingers
3. Why do pesticide-resistant mosquitoes not support macroevolution?
   - A. They reproduce too quickly
   - B. The mutation only works in labs
   - (C.) The mutation involved loss of function
   - D. The mutation affects behavior

4. What does “pithecus” mean?
    - A. Southern
    - (B.) Ape
    - C. Human
    - D. Fossil
5. Which process limits genetic diversity to the genes present in the original population?
    - (A.) Founder effect
    - B. Genetic drift
    - C. Natural selection
    - D. Genetic recombination
6. Which best describes Neanderthals?
    - A. Extinct apes
    - B. Ape to human transitional species
    - (C.) Fully human with advanced culture
    - D. Primitive tool users
7. What is a cladogram?
    - A. A DNA map
    - B. A specific part of the fossil record
    - C. A proven evolutionary tree
    - (D) A hypothesis about evolutionary relationships
8. When researchers calculated the 98% similarity figure, they excluded:
    - (A.) 25% of human DNA and 18% of chimp DNA
    - B. 24% of chimp DNA and 18% of human DNA
    - C. The DNA code differences in human and ape language and intelligence
    - D. 22% of human DNA and 18% of chimp DNA

9. Which of the following is *not* a type of mutation?
    - A. Benign
    - (B.) Intentional
    - C. Lethal
    - D. Beneficial

Match (1 point each):

Write the letter that best corresponds to each. Some letters may be used more than once while others might not be used at all.

A. Type 1 Baramin
B. Type 2 Baramin
C. Type 3 Baramin
D. Type 4 Baramin
E. Human
F. Ape
G. Mixed set of bones
H. Extinct whale
I. A land-dwelling animal

1. __**F**__ Lucy
2. __**I**__ Pakicetus
3. __**C**__ Plants and insects
4. __**E**__ Java Man
5. __**F**__ Ardi
6. __**H**__ Dorudon
7. __**F**__ Zinjanthropus (later Paranthropus) boisei or “Zinj”
8. __**A**__ Asexual organisms
9. __**G**__ Piltdown Man
10. __**G**__ Homo habilis

Short Answer (3 points each):

Respond in 2-3 complete sentences.

1. Why should you verify arguments to make sure that they accurately represent the views of *both* Biblical and evolutionary perspectives, instead of just repeating what you've heard?

Verifying, instead of simply repeating arguments is vital in apologetics because one must make sure they are speaking the truth. Just as you should verify from Scripture when someone tells you, "this Bible verse says this," so you need to verify that an apologetic argument is accurate according to the Bible and creation science. Also, if you misrepresent what an evolutionist was saying then any apologetic response you give to that claim will not be valid and will be disregarded.

2. Why is hybridization an important clue for identifying Biblical kinds?

Hybridization is a process where two animals, such as a horse and a zebra, breed and produce offspring (in this case, a zorse). Since the Bible says that animals reproduce after their own kind, any animals that can breed and produce offspring (e.g., the horse and zebra) are in the same kind, making it a tell-tale sign for identifying Biblical kinds.

3. Why is Lyell's "centres of creation" idea not Biblical?

Charles Lyell's idea for "centres of creation" is not Biblical because all animals we see today came from the 2–14 animals of their respective kinds spreading out from where the Ark landed. This is completely different than the idea that God created all creatures exactly as and where they are today.

Essay (10 points each):

Answer the following prompts in 1-2 complete paragraphs (*Remember*: a paragraph should have 4-6 complete sentences).

1. Explain how Darwin's finches support variation within kinds rather than macroevolution.

When Charles Darwin went on his famous expedition to the Galapagos islands, he had this idea in his mind that according to the Bible, a kind was the same thing as a species, and therefore one species could never turn into another species if the Bible was true. This idea, "fixity of species," was taught in some churches at the time, but it does not align with the Bible. Carl Linneaus, the man who created the classification system that includes species, was a Christian, and even he himself said that a species was not the same as a Biblical kind. For Linneaus, the classification system was simply that—a way to classify organisms according to observable characteristics, and not to compare a certain level like species to a Biblical kind.

When Darwin saw the differences between different species of finches, he recognized that species could change. His belief that the Bible said species cannot change made him doubt, and ultimately reject the Bible altogether. He instead formed the fixity of species. However, the Bible only says that animals and plants will "reproduce after their kind." Cayotes, wolves and domestic dogs can breed even though they are different species, but a dog will never turn into a cat. Likewise, different species of finches can breed, but Darwin never observed them turning into a different kind of animal altogether, or macroevolution. Instead, he observed variation within a kind (sometimes called microevolution), which fits exactly with what the Bible has said all along.

2. Explain how modern genetics (mutation rates, mtDNA, Y-chromosome studies) align with a Biblical timeline of human history.

Modern genetic studies have shown that genetics aligns much better with the Bible than it does with evolution. For example, according to the current evolutionary timeline, it is estimated that ape-like creatures evolved into humans over about 6 million years. However, new genetic studies show that getting two specific (beneficial) mutations established in a population would take over 200 million years, and just eight specific (beneficial) mutations would take about 650 million years. According to these studies, only eight mutations would become established in the entire time evolution has prescribed for ape-like creatures to become humans.

Mitochondrial DNA studies have shown that all humans descend from one female ancestor, not several as the evolutionists originally hypothesized. While the initial 1980s study found that this first woman lived about 100,000-200,000 years ago, newer studies corrected that number to only about 6,000 years ago. Y-chromosome (male DNA) studies, have found that all men come from one male ancestor. Lastly, there is a lot of diversity in our world today. By studying the genetic diversification rate, geneticists have found that the maximum date for the beginning of human diversification is ≤5,112 years. This date is significant because the Flood (after which time the human population was only Noah, his wife, his three sons and their wives) and the Tower of Babel (where God spread the people across the earth) both happened about 4,000-5,000 years ago.