

The Fossil Record

DVD Lesson Plan

Purpose of the DVD

The purpose of the DVD is to demonstrate that the fossil record supports the Biblical model which says that creatures were created after their kind and did not evolve through a series of slow, gradual processes.

DVD Theme

Great claims require real evidence. Where are the thousands of intermediates needed to support the evolution model?

Using the DVD to build an accurate knowledge of the scientific evidences about the fossil record

There is much misinformation being presented in school textbooks about evolution and the fossil record. This DVD will help the student objectively evaluate the claims of intermediate fossils used to support evolution.

The DVD is presented in five major sections:

1. The history of the world
2. The fossil record and textbooks
3. The Cambrian explosion
4. Famous transitions used to support evolution
5. Mechanisms for change
 - Natural selection
 - Mutations

How to Teach Using This DVD

Viewing the DVD for educational purposes (suggestions for maximizing learning)

For best learning results it is recommended students:

1. Review the objectives.
2. Review the DVD outline.
3. Review the exercise questions prior to viewing the video. This will encourage the student to know what to look for and enable better learning.
4. Fill in the answers to each of the exercise questions while watching the video so they can be used as a study guide.
5. After watching the video and studying the exercise sheet, take the exercise again in a test format (no notes).

DVD Objectives

At the completion of this video the student will be able to:

- State/write the how the evolution and creation models interpret the fossil record.
- State/write why the Cambrian/Precambrian fossil record refutes evolution.
- State/write why each of the major transitional periods does not support evolution.
- State/write why the horse series presented in many textbooks is not an accurate description of evolution.
- State/write why archaeopteryx does or does not support a transitional link between reptiles and birds.
- Describe the two mechanisms for change (natural selection and mutations) and how they support or do not support evolution.

DVD Outline

PART 1: The History of the World: An overview of the two models of history (creation and evolution)

The introduction points out the fundamental differences between the Bible and the story of evolution.

- The evolution history of the world
 - The earth evolved 4.6 billion years ago
 - Life evolved from non-life 3.5 billion years ago
 - All species evolved over billions of years from a common ancestor
 - The earth has been shaped by uniformitarian processes over billions of years
- Biblical history of the world
 - Genesis 1:1

- Genesis 1:25
- Genesis 6:17
- Each model (evolution and creation) can best be tested by examining two lines of evidence
 - The fossil record (history)
 - Mechanism for change
- The fossil record: What does each model predict?
 - Evolution model: Many intermediates
 - Creation model: No intermediates – genetic variability

“Why is not every geological formation and every stratum full of such intermediate links? Geology assuredly does not reveal any such finely graduated organic chain; and this is the most obvious and serious objection which can be urged against the theory.”

Charles Darwin, *Origin of Species*, 6th edition, 1872, p. 413.

- Intermediates: If evolution is true, there should be observable evidence to support these transitions.
 - Single cell to complex designs
 - Invertebrate to vertebrate (fish)
 - Fish to amphibian
 - Reptile to bird

PART 2: The Fossil Record and Education

“So many intermediate forms have been discovered between fish and amphibians, between amphibians and reptiles, between reptiles and mammals and along the primate lines of descent that it is often difficult to identify categorically when the transition occurs from one to another species.”
NAS, *Science and Creationism*, 1999.

Is this true?

“Fossils offer the most direct evidence that evolution takes place....
Fossils, therefore, provide an actual record of Earth’s past life-forms. Change over time (evolution) can be seen in the fossil record.”
Biology: Principles and Explorations, Holt, Rinehart, Winston, 2001, p. 283.

Is this true?

PART 3: The Cambrian Explosion

- The foundation for the geologic column and fossil record is the Cambrian and Precambrian time periods.
 - The Cambrian explosion (Biology’s Big Bang) is the sudden appearance of complex multicellular animals.

- The entire period lasted 5 – 10 million years.
- Every major body plan suddenly appeared during this period.
- These same body plans (designs) still exist today.
- Evidence versus evolution
 - Darwinian evolution teaches that life began with a single cell and evolved into many complex creatures.
 - Based on Darwinian evolution there should be thousands (or millions) of transitional creatures between a cell and complex creatures like trilobites and sea shells.
 - The Cambrian/Precambrian time period does not support Darwinian evolution. There are no intermediate (transitional forms) found during this period.

“There is no question that such gaps exist. A big gap appears at the beginning of the *Cambrian explosion*, over 500 million years ago, when great numbers of new species suddenly appeared in the fossil record.”
David Berlinski (evolutionist), *A Tour of the Calculus*, 1995.

“The Cambrian explosion is not just a case of all the major animal phyla appearing at about the same place in the geologic column. It is also a situation of no ancestors to suggest how they might have evolved.”
Ariel Roth (Ph.D. Zoology), *Origins*, 1998, p. 184.

- Where are the thousands of observable intermediates? The model of evolution does not agree with the evidence.

“The Cambrian Period, which began 544 million years ago, is marked by an abundance of different fossils. Why the difference from earlier periods? By the Cambrian period, some animals had evolved shells, skeletons, and other hard body parts...”
Biology, Miller and Levine, 2002, p. 746.

- Even textbooks admit there was a sudden appearance of complex life forms and are unable to support the claim of evolution with real evidence.

Great claims require REAL evidence

- What do the facts support? The Biblical model of “created after their kind”.
- Invertebrate to Vertebrate (Fish)

“Fishes are considered to be the most primitive living vertebrates... similarities in structure and embryological development show that fishes and modern invertebrate chordates probably did evolve from common invertebrate ancestors that lived many millions of years ago.”

Biology, Miller and Levine, 2000, p. 680.

- Note the words “probably did evolve” in the above textbook quote. This is an admission that they do not have the evidence to support their claim that fish evolved from invertebrates.
- There is not one single intermediate in the textbook to support the claim of fish evolution.
- What do the facts (invertebrate to vertebrate) support? The Biblical model of “created after their kind”.

“However, we have virtually no evidence in the fossil record or elsewhere for any of the changes proposed during this ‘immensity of time’; but the public hears nothing of this problem.”

Aerial Roth (Ph.D. Zoology), *Origins*, p. 189.

- Fish to Amphibian evolution
 - Textbooks claim that lobed-finned fish evolved into amphibians.

“Because of these similarities, scientists think the first amphibians were descendants of the lobe-finned fishes, a group whose modern members include the coelacanth and the lungfishes.”

Biology: Visualizing Life, Holt, Rinehart, and Winston, 1998, p. 461.

- Note the words “scientists think.” This is an admission there is not evidence to support the claim of fish to amphibian evolution.
- Evolutionists in the past used the Coelacanth as evidence fish were evolving into amphibians. The claim was that the front fins were “evolving” into legs.
- The Coelacanth was supposed to be extinct for 70 million years.
- In 1938 living coelacanths were found still living. The front fins were not legs, but fins. This is another misinterpretation of the fossil record by evolutionists.

PART 4: Famous Transitions Used to Support Evolution

- Reptile to mammal – the horse

“The horse is a well-documented case study in evolution. The fossil record shows clear steps in the progression from a four-toed, small browsing animal - one of a line that gave rise to tapirs, rhinoceroses, and other mammals in addition to horses - to the modern horse,...”

"Evolutionary History of the Modern Horse," Microsoft® Encarta® Encyclopedia 2000. © 1993-1999 Microsoft Corporation.

“According to the theory of gradualism, new species of horses evolved slowly and continuously. Intermediate forms were common. . .

According to punctuated equilibria, new species evolved rapidly during a short period of time. Intermediate forms were rare.”
Life Sciences, Prentice Hall, 2002, p. 164.

- The above textbook quote claims that if we find many intermediate horse fossils it is support for evolution and if we don't find intermediate horse fossils it is also support for evolution. This is a nonsense statement because evolution is claimed to be true with or without evidence.

“As the biologist Heribert-Nilsson said, ‘The family tree of the horse is beautiful and continuous only in the textbooks’, and the famous paleontologist Niles Eldredge called the textbook picture ‘lamentable’ and ‘a classical case of paleontologic museology’.”
Jonathan Sarfati (Ph.D. Physical Chemistry), *Creation Ex Nihilo*, 1999.

“The popularly told example of horse evolution, suggesting a gradual sequence of changes from four-toed, fox-sized creatures, living nearly 50 million years ago, to today’s much larger one-toed horse, has been known to be wrong... Transitional forms are unknown.”
Boyce Rensberger (senior editor of *Science 80*), *Houston Chronicle*, Nov. 5, 1980, p. 15.

[This information not on the video]

- Scientists find “fossil horses” mixed throughout all the different time layers, meaning they all lived at the same time
- The rib count, vertebrae count, tooth count and the size of the animal, varies widely and does not show any direct line of progression (18, 15, 19, 18)

What do the facts support?

- The Biblical model of “created after their kind”.
 - Living horses come in a wide range of sizes: English Shire: over 6 ½ feet, Ponies: under 5 feet, Fallabella: under 2 feet.
 - Some horses today have 3 toes.
 - Many different varieties of horses exist today that resemble horse fossils.
- Reptile to bird evolution

“To many paleontologists a bird is a dinosaur with feathers. That definition may sound odd, but it makes sense. The first fossil ever found of an early birdlike animal is in the genus *Archaeopteryx* and dates from late in the Jurassic period, about 150 million years ago.”
Biology, Miller and Levine, 2002, p. 907.

“Birds evolved from reptiles during the Jurassic period.”
Biology: Principles and Explorations, Holt, Rinehart, Winston, 2001, p. 268.

- Archaeopteryx is one of the main evidences used by evolutionists to support reptile to bird evolution. However, one of the leading experts in birds disagrees with archaeopteryx being the intermediate link between reptiles and birds.

“Paleontologists have tried to turn *Archaeopteryx* into an earth-bound, feathered dinosaur. But it’s not. It is a bird, a perching bird. And no amount of ‘paleobabble’ is going to change that.”

Alan Feduccia (World authority on birds), *Science*, “Archaeopteryx: Early Bird Catches a Can of Worms”, 1993.

- Archaeopteryx differs from reptiles.
 - It had claws on its wings, but so do the ostrich and hoatzin.
 - It had teeth, but so do other fossil birds, and its teeth differed from those of reptiles.
 - Only birds have feathers and Archaeopteryx had perfectly developed wings.

“The imprint they left in the rock, clear and sharp, makes it evident that the feathers of Archaeopteryx were already in Jurassic time exactly like those of birds flying today.”

Barbara Stahl, *Vertebrate History: Problems in Evolution*

- Birds older than Archaeopteryx have been found.
- “The first fossil ever found of an early birdlike animal is in the genus *Archaeopteryx* and dates from late in the Jurassic period, about 150 million years ago.”
- “A fossil resembling a modern bird has been found in Eastern Colorado in the same geologic strata as *Archaeopteryx*.”
Jean L. Marx, *Science*, “The Oldest Fossil Bird: A Rival for Archaeopteryx?”, 1978, p. 284.
- Texas Tech researchers have reported discovering bird fossils in rocks dated much older [than Archaeopteryx].

[This quote is not on the DVD]

“Birds are so different from other creatures that there would have been hundreds of thousands of intermediate forms between birds and land animals if birds had evolved.”

Stuart Burgess (Ph.D. Engineering Design, Professor of Combustion Theory, extensive study in the area of design in nature), *Hallmarks of Design*, 2002, p. 47.

[This quote is not on the DVD]

“As for its ‘reptile’ characteristics, yes, it had claws on its wings, but so does the ostrich, and nobody considers it part reptile. . .

True, *Archaeopteryx* had teeth, but so did other fossil birds, and its teeth differed distinctly from those of reptiles...

As to *Archaeopteryx*'s tail, further inspection has shown it strongly resembles a swan's."

James Perloff, *Tornado in a Junkyard*, 1999, p. 18.

- For a reptile to change into a bird the entire anatomy must change:
 - Development of feathers
 - Reform of respiratory system
 - Reform of skeletal system – hollow bones
 - Reform of digestive system
 - Reform of nervous system
 - Construction of bills & beaks
 - Mastery of nest building
 - Acquisition of flight
 - Development of sound producing organ

[This quote is not on the DVD]

"This creates a new problem for those who insist that dinosaurs were ancestors of modern birds. How can a bird hand, for example, with digits two, three and four evolve from a dinosaur hand that has only digits one, two and three? That would be almost impossible."

Alan Feduccia, (professor and former chair of biology at UNC), *The Origin and Evolution of Birds*, Yale University Press, 1999, p. 81.

[This quote is not on the DVD]

"If one views a chicken skeleton and a dinosaur skeleton through binoculars they appear similar, but close and detailed examination reveals many differences. Theropod dinosaurs, for example, had curved, serrated teeth, but the earliest birds had straight, unserrated peg-like teeth. They also had a different method of tooth implantation and replacement."

Dr. Alan Feduccia, "Scientist Says Ostrich Study Confirms Bird 'Hands' Unlike Those Of Dinosaurs", EurekaAlert, 14-Aug-2002.

- Reptile to bird conclusion

"It's biophysically impossible to evolve flight from such bipeds with foreshortened forelimbs and heavy, balancing tails, Exactly the wrong anatomy for flight."

A. Gibbons, *Science*, "New Feathered Fossil Brings Dinosaurs and Birds Closer," 1996.

"Given the fact of evolution, one would expect the fossils to document a gradual steady change from ancestral forms to the descendants. But this is

not what the paleontologists finds. Instead, he or she finds gaps in just about every phyletic series.”

Ernst Mayr (Professor Emeritus in the Museum of Comparative Zoology at Harvard University, Hailed as the Darwin of the 20th century), *What Evolution Is*, 2001, p. 14.

- The intermediates needed to support evolution do not exist.
- Evolution is a matter of faith.

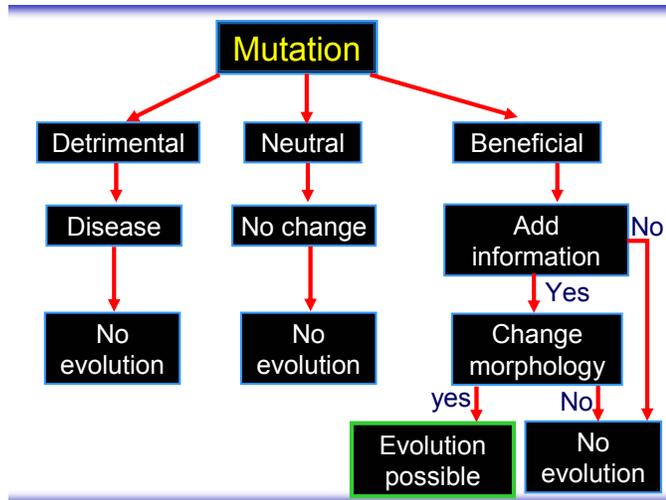
PART 5: Mechanisms for Change

- For evolution to be true there must be some mechanism for each of the following changes to occur.
 - Single cell to invertebrate
 - Invertebrate to vertebrate (fish)
 - Fish to amphibian
 - Amphibian to reptile
 - Reptile to mammal and bird
 - Ape-like creature to human
- Definitions
 - Microevolution: genetic variability / natural selection - NOT evolution
 - Macroevolution: One species changing into a new species – requires new information
 - Genetic variation and natural selection: Variability within kind
- Natural selection
 - Genetic variation
 - Ability to adapt to the environment
 - Survival of the fittest
 - Can natural selection cause one kind (species) to become a new kind?
NO
 - Natural selection ONLY works with existing information

“Natural selection can act only on those biological properties that already exist; it cannot create properties in order to meet adaptational needs.”
Elmer Noble, Ph.D. Zoology, Glenn Nobel, Ph.D. Biology, Gerhard Schad, Ph.D. Biology, Austin MacInnes, Ph.D. Biology,
Parasitology: The Biology of Animal Parasites, 1989, p. 516.

“I would therefore argue that the very concept of natural selection as defined by the neo-Darwinist is fundamentally flawed....”
Neil Broom, *How Blind Is the Watchmaker*, 2001, p. 165. (Ph.D. Chemical and Materials Engineering)

- Mutations



- False evidences used to support evolution
 - Peppered moth
 - Darwin's Finches
 - Fruit fly
 - Bacteria resistance to antibiotics
 - Not due to mutations, but complex enzymes that inactivate the poison
 - Some cases due to spontaneous mutation, but no morphological change – no evolution
 - The resistance was already present
 - [Not in DVD] in some cases a dormant gene is activated due to an environmental factor. This is called a programmed gene expression. Since the activated gene for resistance was already present (but dormant) no new information is added.
 - None of these are examples of evolution. They are all genetic variation/natural selection.

“But there is no evidence that DNA mutations can provide the sorts of variation needed for evolution...

There is no evidence for beneficial mutations at the level of macroevolution, but there is also no evidence at the level of what is commonly regarded as microevolution.”

Jonathan Wells, Ph.D. Molecular Biology

“Mutations are rare phenomena, and a simultaneous change of even two amino acid residues in one protein is totally unlikely. ...

One could think, for instance, that by constantly changing amino acids one by one, it will eventually be possible to change the entire sequence substantially...

These minor changes, however, are bound to eventually result in a situation in which the enzyme has ceased to perform its previous function but has not yet begun its 'new duties'. It is at this point it will be destroyed – along with the organism carrying it.”

Maxim D. Frank-Kamenetski, *Unraveling DNA*, 1997, p. 72.
(Professor at Brown U. Center for Advanced Biotechnology and
Biomedical Engineering)

“But in all the reading I’ve done in the life-sciences literature, I’ve never found a mutation that added information...
All point mutations that have been studied on the molecular level turn out to reduce the genetic information and not increase it.”
Lee Spetner (Ph.D. Physics – MIT, taught information and communications at Johns Hopkins University), *Not By Chance*, 1997, pp. 131, 138.

“...that the development and survival of the fittest is entirely a consequence of chance mutations, or even that nature carries out experiments by trial and error through mutations in order to create living systems better fitted to survive, seems to be a hypothesis based on no evidence....”
Ernst Chain (Biochemist and Nobel Prize winner), *Responsibility and the Scientist in Modern Western Society*, London: Council of Christians and Jews, 1970, p.25.

- Summary
 - The intermediates required for evolution do not exist
 - The fossil record supports the creation model
 - Natural selection and mutations are not mechanisms for evolutionary change
 - What does this mean?
 - There must be another explanation for the fossil record
- Understanding fossils

And behold, I, even I, do bring a flood of waters upon the earth, to destroy all flesh, wherein is the breath of life, from under heaven; and every thing that is in the earth shall die.

Genesis 6:17

- Why people ignore God’s Word

If I have told you earthly things, and ye believe not, how shall ye believe, if I tell you of heavenly things?

John 3:12

For this they willingly are ignorant of, that by the word of God the heavens were of old, and the earth standing out of the water and in the water: Whereby the world that then was, being overflowed with water, perished:

2 Peter 3: 5-6

- Conclusion
 - The Bible teaches that God is the Creator of all things – created after their kind
 - Why do people believe what they believe?
 - Peer pressure (want to agree with the majority)
 - Personal opinion or pride
 - Scientific evidence
 - The Bible
 - It is your choice what to believe

INTERVIEWS

Duane Gish, Ph.D. Biochemistry

John Morris, Ph.D. Geological Engineering

Jobe Martin, D.M.D., Th.M.

Ken Cumming, Ph.D. Biology

ADDITIONAL RESOURCES

Evolution: The Fossils Still Say No by Duane Gish (technical)

Darwin on Trial by Phillip Johnson

EXERCISES

Exercises can be given in multiple ways to check the student's knowledge of the information presented on the DVD. Two methods have been included in this lesson plan.

1. Essay format
2. Fill-in and multiple choice format

The following pages include both formats followed by the answer keys.

Exercise (essay format)

1. How do the models of evolution and creation differ on the history of the world?
2. What do each of the models (creation and evolution) predict we should find in the fossil record?
3. What was one of the major objections Charles Darwin stated in his book, *Origin of the Species*, about his idea of evolution?
4. What does most of the information in the public education system (textbooks) and the National Academy of Sciences (NAS) state about the fossil record?
5. What is significant about the different types of organisms scientists find in the Precambrian and Cambrian time periods?
6. Based on the Darwinian model of evolution what should we find between the Precambrian and Cambrian time periods? What have scientists actually found?

7. Many evolutionists claimed that the Coelacanth was an intermediate link between fish and amphibians. How accurate was this claim?

8. Many textbooks still document the horse as proof of evolution. Do all scientists agree? What information are textbooks not including?

9. Evolutionists claim that reptiles (dinosaurs) evolved into birds. What is their main fossil evidence for this claim and what evidence is used to support that it was a transitional form?

10. What evidence refutes Archaeopteryx as a transitional form?

11. What is the difference between macroevolution, microevolution, and genetic variation?

12. Can natural selection be the cause of one kind of species to “evolve” into a completely new kind of species?

Exercise (multiple choice/ fill-in format)

1. Fill in the blanks for the evolution model history of the world.

- a. The earth evolved _____ years ago.
- b. Life evolved from non-life _____ years ago.
- c. All species evolved over billions of years from a _____
_____.
- d. The earth has been shaped by _____ processes over
_____ of years.

2. Match the Biblical history of the world with the correct Scripture verse.

- | | |
|--|-----------------|
| _____ The Genesis Flood | a. Genesis 1:2 |
| _____ The creation of the earth | b. Genesis 1:1 |
| _____ Creation of animals after their kind | c. Genesis 1:25 |
| | d. Genesis 6:17 |
| | e. Genesis 10:1 |

3. What two lines of evidence can help determine which model (creation or evolution) is the correct history of the world?

- a. _____
- b. _____

4. What do each of the models (creation/evolution) predict about the fossil record?

Evolution: There should be _____ intermediates.

Creation: There should be _____ intermediates, but we should observe genetic _____.

5. What did Charles Darwin see as a serious objection to his theory?
- The First and Second Laws of Thermodynamics
 - A lack of transitional fossils
 - The earth was not old enough
 - Not enough scientists believed his theory
6. What do the National Academy of Sciences and many biology textbooks claim about the fossil record?
- The fossil record is full of transitional forms to support evolution.
 - The fossil record still lacks the transitional forms to support evolution.
7. Why is the Cambrian explosion a major problem for the evolutionists? (circle all that apply)
- Every major body plan suddenly appears in the Cambrian time period.
 - There are no transitional forms between the Precambrian and Cambrian time periods.
 - The Precambrian and Cambrian time period are often reversed in the geological column.
 - Since the model of evolution is dependent upon finding transitional forms, it lacks any evidence (foundation) at the lowest level of the geological column.
8. Fill in the blank for the statement made by Ariel Roth (Ph.D. Zoology).
- “The Cambrian explosion is not just a case of all the major animal phyla appearing at about the same place in the geologic column. It is also a situation of _____ to suggest how they might have evolved.”
9. Great claims require _____ evidence.
10. What do the facts of the fossil record support for the Precambrian/Cambrian time periods?
- Exactly what the National Academy of Sciences and many biology textbooks state.
 - The Biblical model of “created after their kind”.

11. What word(s) in the following statement from the biology textbook (*Biology*, Miller and Levine, 2000) show that evolutionists are unable to provide any real evidence for their claim of evolution.

“Fishes are considered to be the most primitive living vertebrates...
...similarities in structure and embryological development show that fishes and modern invertebrate chordates probably did evolve from common invertebrate ancestors that lived many millions of years ago.”

- a. Fishes considered to be the most primitive living vertebrates
 - b. Similarities in structure
 - c. Probably did evolve
 - d. Millions of years ago
12. What do the facts of the fossil record reveal about invertebrate to vertebrate transitions?
- a. The Biblical model of created after their kind
 - b. The evolution model of many transitional forms

13. What word(s) in the following statement from the biology textbook (*Visualizing Life*, Holt, Rinehart, and Winston, 1998) show that evolutionists are unable to provide any real evidence for their claim of evolution.

“Because of these similarities, scientists think the first amphibians were descendants of the lobe-finned fishes, a group whose modern members include the coelacanth and the lungfishes.”

- a. These similarities
 - b. Scientists think
 - c. First amphibians were descendants
 - d. Whose modern members include the coelacanth
14. Many evolutionists and textbooks used the coelacanth as an example of a transitional form between fish and amphibian. What discovery verified or discredited this claim?
- a. Actual fossils of the coelacanth have been found with front legs.
 - b. Lizards living today resemble the coelacanth.
 - c. Not enough fossils have been found to verify or discredit the claim.
 - d. Living coelacanths have been found and they are still 100 per cent fish.

15. Many textbooks still use the horse series as an example of evolution. How compelling is the evidence used to support the evolution of the horse?
- There is a lack of transitional forms, there are many varieties of horses living today, and there is a general disagreement among evolutionists about horse evolution. Therefore, the evidence is inconsistent and does not support evolution.
 - The pictures in textbooks are well-documented and confirm evolution.
 - So many transitional forms have been found that it is now considered to be a fact of evolution.
 - The lack of transitional forms (punctuated equilibria) is proof of evolution.
16. According to many biology textbooks, what are birds?
- A feathered dinosaur
 - A flying insect
 - A modern relative of fish
 - An invertebrate with feathers
17. A common example used by evolutionists to support reptile to bird evolution is archaeopteryx because it had teeth and claws on its wings. Why is this not compelling evidence for evolution? (circle all that apply)
- Birds living today have claws on their wings.
 - Fossil birds have been found that had teeth making archaeopteryx another unique bird with teeth.
 - Archaeopteryx had feathers and only birds have feathers.
 - Birds older than archaeopteryx have been found in the fossil record.
18. What has been the evolutionists track record of claims that reptiles evolved into birds?
- Very good because of the many discoveries of feathered reptiles (dinosaurs).
 - Poor because all the alleged discoveries of feathered reptiles have been shown to be false, or frauds.
19. What has to change or occur in order for a reptile to “evolve” into a bird? (circle all that apply)
- Scales must change into feathers.
 - Almost all the internal organs must change.
 - Reptiles must continue to flap their front legs like wings over many generations until the legs and scales change into feathered wings.
 - It is biophysically impossible for this change to occur.

20. What can be concluded about the following statement from Ernst Mayr (Professor of Comparative Zoology at Harvard University and leading evolutionist), in his book, *What Evolution Is*?

“Given the fact of evolution, one would expect the fossils to document a gradual steady change from ancestral forms to the descendants. But this is not what the paleontologists finds. Instead, he or she finds gaps in just about every phyletic series.” (circle all that apply)

- a. Evolution is a fact supported by the fossil record.
- b. There are many transitional forms to support evolution.
- c. He claims evolution is a fact, but is unable to support the claim using the transitional forms in the fossil record.
- d. The fossil record does not support the predictions of the evolution model.

21. What is microevolution?

- a. Small steps that lead to major evolutionary changes such as reptile to bird or ape-like creatures into humans.
- b. Not evolution, but random mutations or genetic variability.

22. What feature is required in order for macroevolution to occur?

- a. The addition of new information.
- b. Continued use of an organ in a different manner.
- c. The desire to become something new.
- d. Pictures in textbooks.

23. Can natural selection cause one species to evolve into a new species, such as a reptile into a bird? Why or why not? (circle all that apply)

- a. Yes, because natural selection only selects new beneficial mutations.
- b. No, because natural selection only works with existing information.
- c. Yes, because Charles Darwin saw how it could change the beak sizes on finches.
- d. No, because macroevolution requires the addition of new genetic information and natural selection does not add new information, but can be the cause of a loss of information.

24. What types of mutations are most often observed?

- a. Beneficial
- b. Detrimental and neutral

25. Will a new beneficial mutation be sufficient to cause macroevolution to occur?
- Yes, because when a beneficial mutation occurs natural selection will select the new mutation causing the organism to begin a gradual change.
 - No, because it also requires the addition of new information, it must code for a morphological change, and it must be inherited.
26. Peppered moths changing from light to dark color is an example of:
- Evolution
 - Natural selection and genetic variability
27. Why are beak-size-changes on finches not an example of evolution? (circle all that apply)
- The finches never changed into anything else. They started as finches and ended as finches.
 - Since evolution moves at a slow pace it is not yet an example of evolution, but given enough time they will change into a new species.
 - Once the drought was over (the cause of the isolated population of finches) their beaks changed back to the original shape.
 - The change in beak shapes (size) is an example of natural selection and genetic variability and not evolution.
28. Is bacteria resistance to antibiotics an example of evolution occurring today?
- Yes
 - No
29. What do Jonathan Wells (Ph.D. Molecular Biology), Lee Spetner (Ph.D. Physics) and Ernst Chain (Biochemist and Nobel Prize Winner) conclude about mutations and evolution?
- Given enough time there will be sufficient mutations to cause evolution.
 - There are no known beneficial mutations that have added information.
30. What can be concluded about the fossil record?
- The fossil record supports the Biblical model of created after their kind.
 - The fossil record supports the evolution model.

31. What is the best explanation for the fossil record?

- a. Most fossils are the result of creatures being buried over long periods of time.
- b. Most fossils are the result of small catastrophic events that occurred over billions of years.
- c. Most fossils are the result of the Genesis Flood.

Answer Key (Essay format)

- 1) The evolution model teaches the everything evolved by natural processes.
 - The earth evolved 4.6 billion years ago.
 - Life evolved from non-life 3.5 billion years ago.
 - All species evolved over billions of years from a common ancestor.
 - The earth has been shaped by uniformitarian processes over billions of years.

The creation account teaches:

- God created all things - *In the beginning God created the heaven and the earth.* (Genesis 1:1)
 - God created all creatures after their kind - *And God made the beast of the earth after his kind, and cattle after their kind, and every thing that creepth upon the earth after his kind: and God saw that it was good.* (Genesis 1:25)
 - God destroyed the world by a flood - *And, behold, I, even I, do bring a flood of waters upon the earth, to destroy all flesh, wherein is the breath of life from under the heaven; and every thing that is in the earth shall die.* (Genesis 6:17)
- 2) The evolution model predicts there should be many intermediates (transitional forms).
The creation model predicts there should be no intermediates but there should be variation within kinds.
 - 3) One of Charles Darwin's objections (concerns) to his theory was that the fossil intermediates necessary to support evolution did not exist or could not be found.
 - 4) Most information in the public education system (textbooks) and the National Academy of Sciences state there are many intermediate (fossil transitional forms) available to support evolution.
 - 5) In the Precambrian time period we find single-cell organisms. In the Cambrian time period we find very complex creatures such as trilobites, jellyfish, and sea shells.
 - 6) According to Darwinian evolution scientists should find single-celled organisms in the Precambrian with a gradual progression of complexity to very complex organisms in the Cambrian time period. Scientists have not been able to find any gradual progression (transitional forms) as they move from the Precambrian to the Cambrian time periods.
 - 7) The claim by many evolutionists of the Coelacanth becoming an amphibian (front fins turning into legs) was not accurate. In 1938 a living Coelacanth was

found and the front fins were still fins. The Coelacanth was not evolving, but is still 100 percent fish.

- 8) Many scientists do not agree with the alleged evolution of the horse series. Even textbooks are confusing on the issue. Some textbooks claim there are many transitional creatures in the horse series while some textbooks suggest there is not a clear line of progression.
[Additional information] The different horse fossils are all found mixed together in the strata suggesting they lived at the same time. In addition, textbooks fail to mention there are small, medium and large sized horses living today. Textbooks also fail to mention that the rib count, vertebrae count, tooth count do not go in a sequential order suggested by evolution.
- 9) The main evidence used by evolutionists to support dinosaur to bird evolution is the Archaeopteryx fossil. Two of the main evidences used to support Archaeopteryx as a transitional form are that it had teeth and claws on its wings.
- 10) Some birds living today have claws on their wings. Other fossil birds that are not claimed to be transitional had teeth. Birds older than Archaeopteryx have been discovered. Birds are so different than reptiles that there should be thousands of transitional forms (intermediates) if reptiles evolved into birds, not just a single alleged transition. Finally, why should evolutionists resort to misinformation (false claims: “feathered dinosaurs”) to support their claim of reptile to bird evolution if they are sure of their evidence?
- 11) Microevolution is often associated with two different meanings. A common meaning is variation within kind. A second meaning is random mutations or errors in DNA. In both cases there is no evolution taking place. In addition no new information is added.
Macroevolution is when one species changes into a new species. This requires the addition of new genetic information.
Genetic variation means variability within kind. This is a case of using existing genetic information to vary within kind. All species have the capability to be “different” within kind, but not change into a new species.
- 12) No, because macroevolution requires the addition of new information and natural selection only works with existing information. In addition, in many cases natural selection causes a loss of information, the opposite direction of evolution.
- 13) Detrimental mutations are the cause of disease, sickness, and death, therefore these are not a cause of evolution. Neutral mutations cause no change and are therefore not a cause of evolution. Some mutations may be

beneficial but they cannot be the cause of evolution. To have evolution occur new genetic information must be added. There are no known beneficial mutations that have added new information.

- 14) In all cases peppered moths stayed peppered moths, finches stayed finches, and fruit flies stayed fruit flies.

In the case of peppered moths we started with light and dark colored peppered moths and ended with light and dark colored peppered moths. This is an example of natural selection not evolution.

Finches developed slightly different sizes of beaks due to a drought.

However, when the drought ended their beaks went back to the original shape. In addition, the finches did mate and produced fertile offspring meaning they were still the same species.

Scientists bombarded fruit flies with radiation to simulate millions of years of evolution. However, in all cases scientists ended with deformed fruit flies.

All three cases are examples of natural selection (genetic variation) and not evolution.

- 15) Bacteria resistance to antibiotics is not an example of evolution. Most antibiotics work at the enzyme level (protein) and therefore there is no new information added. A second cause of resistance is that some bacteria already have the resistance and some don't. The bacteria that do not have the resistance die out and again there is no change.
[Not in DVD] A third cause is that in some cases a dormant gene is activated due to an environmental factor. This is called a programmed gene expression. Since the activated gene for resistance was already present (but dormant) no new information was added.

- 16) There is no known mechanism that would allow for one creature to evolve into another creature. A major consideration would be that as the creature is evolving, the external features must change as well as many of the internal organs. In addition, as a creature is half evolved, reptile to bird, it can no longer do its previous functions, such as escape its predators, but it cannot yet do its new functions. At this point it will perish.

- 17) The best evidence for understanding the fossil record is the Genesis Flood.

- 18) Many people ignore the Word of God because they willfully choose to not believe. (John 3:12 and 2 Peter 3:5-6)

Answer Key (multiple choice/ fill-in format)

1. a) 4.6 b) 3.5 c) common ancestor d) natural, billions
2. d The Genesis Flood
b The creation of the earth
c Creation of animals after their kind
3. The fossil record and the mechanism for change
4. Many, no, variation
5. b
6. a
7. a, b, d
8. no ancestors
9. real
10. b
11. c
12. a
13. b
14. d
15. a
16. a
17. a, b, c, d
18. b
19. a, b, d
20. c, d
21. b
22. a
23. b, d
24. b
25. b
26. b
27. a, c, d
28. b
29. b
30. a
31. c