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# EVOLUTION'S ACHILLES' HEELS

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The Documentary

**A study guide for individuals and small groups**



This guide is designed to help you think through the many ideas that are about to be presented to you in the documentary *Evolution's Achilles' Heels*. Each chapter in the documentary is designed as a stand-alone module. You can watch the whole thing in one sitting, break it up into two viewing sessions, or watch each 10-minute chapter on its own.

Feel free to reproduce this guide!



## Chapter 1: Natural Selection

For additional information, consult Chapter 1 in the book *Evolution's Achilles' Heels* and our natural selection Q&A: [creation.com/selection](http://creation.com/selection)

Questions:

1. What is natural selection? [creation.com/defining-terms](http://creation.com/defining-terms)
2. Is natural selection the same thing as evolution? Why or why not? [creation.com/muddy-waters](http://creation.com/muddy-waters)
3. Do commonly used examples of natural selection support evolution in the sense of simple organisms turning into more complex ones? Explain your answer. [creation.com/rech2](http://creation.com/rech2)
4. Does natural selection produce new things or only act on existing things?
5. Why do mutations *not* help to explain where new things come from? [creation.com/mutations](http://creation.com/mutations)
6. Are the types of changes we see upward or downward? [creation.com/train](http://creation.com/train)
7. What is a species? [creation.com/speciation](http://creation.com/speciation)
8. Why is the appearance of new species not a problem for creationists? [creation.com/ns-speciation](http://creation.com/ns-speciation)
9. List some examples of animals or plants of different species or genera hybridizing: [creation.com/liger](http://creation.com/liger)
10. Has the evolutionary 'tree of life' predicted by Charles Darwin been found by modern science? What is the creationist alternative? [creation.com/creationist-orchard](http://creation.com/creationist-orchard)
11. Even though they are necessary for evolutionary theory, why do changes within species *not* prove evolution? [creation.com/speedy](http://creation.com/speedy)
12. Do creationists believe that species do not change?
13. Discussion question: Is natural selection a friend or foe of evolutionary theory? Why or why not?

## Chapter 2: Genetics

For additional information consult Chapter 2 in the book *Evolution's Achilles' Heels* and our genetics Q&A: [creation.com/genetics](http://creation.com/genetics)

Questions:

1. Creationists talk a lot about 'information', but evolutionists generally think there is little to no information in the cell. Why this difference? [creation.com/infotheory](http://creation.com/infotheory)
2. Is life based on instructions (information)? Is this information simple or complex? Are there multiple 'dimensions' of information in the cell? (how many?) [creation.com/multidimensional](http://creation.com/multidimensional)
3. Do mutations destroy genes? Do mutations create new genetic instructions? [creation.com/new-info](http://creation.com/new-info)
4. Is it a simple process to go from the information in DNA to a protein? [creation.com/dna-to-protein](http://creation.com/dna-to-protein)
5. Information, communication, and language are three things required for a cell to function. Are they physical and do they come from the natural world? [creation.com/code](http://creation.com/code)
6. Why are 'overlapping codes' a problem for evolution? [creation.com/dnaupdate](http://creation.com/dnaupdate)
7. Where does the idea of 'junk' DNA come from? Does junk DNA have any functions? [creation.com/junk-dna-functions](http://creation.com/junk-dna-functions)
8. Are human and chimpanzees 99% identical? How much difference is important? Do creationists also expect humans and chimps to be similar? [creation.com/chimp](http://creation.com/chimp)
9. What is "genetic entropy"? Where do we see its effects individually and as a species? [creation.com/sanford-review](http://creation.com/sanford-review)
10. Is natural selection sufficient to reverse genetic entropy? [creation.com/genetic-entropy](http://creation.com/genetic-entropy)
11. Discussion question: Is genetics a friend or foe of evolutionary theory? Why or why not?

## Chapter 3: Origin of Life

For additional information consult Chapter 3 in the book *Evolution's Achilles' Heels* and our origin of life Q&A: [creation.com/origin](http://creation.com/origin)

Questions:

1. Is the Miller-Urey experiment sufficient to explain the origin of life? What did they discover and what was missing? [creation.com/urey](http://creation.com/urey)
2. How does water interfere with the building of long molecules? [creation.com/polymer](http://creation.com/polymer)
3. Do chemical reactions make “one-handed” molecules like those found in living things? [creation.com/chirality](http://creation.com/chirality)
4. Does the “RNA World” hypothesis explain the origin of life? Why not? [creation.com/rna](http://creation.com/rna)
5. Why are catalysts needed for life? Are proteins or RNA used as catalysts in the cell? [creation.com/enzymes](http://creation.com/enzymes)
6. Is appealing to “chance” logical? [creation.com/monkeys](http://creation.com/monkeys)
7. Give an example of a ‘chicken-and-egg’ problem in biology.
8. Do we find ATP or DNA, or their components, in the natural world? Why not? [creation.com/atp-synthase](http://creation.com/atp-synthase); [creation.com/blocks](http://creation.com/blocks)
9. If not RNA, proteins, DNA, or membranes, what is life based on? [creation.com/infotheory](http://creation.com/infotheory)
10. Is the simplest possible life simple? What are some of the things required for ‘first life’? [creation.com/replicating](http://creation.com/replicating)
11. Has ‘chemical evolution’ historically been part of evolutionary theory? Why might some people try to avoid the discussion?
12. What is ‘panspermia’? What are the two forms of this idea and what are the problems associated with each? [creation.com/panspermia](http://creation.com/panspermia)
13. Discussion question: Is the origin of life a friend or foe of evolutionary theory? Why or why not?

## Chapter 4: The Fossil Record

For additional information consult Chapter 4 in the book *Evolution's Achilles' Heels* and our fossil record Q&A: [creation.com/fossils](http://creation.com/fossils)

Questions:

1. How long do fossils take to form? [creation.com/fossils](http://creation.com/fossils)
2. Does the 'big picture' of the fossil record support Darwin's view of evolution? [creation.com/re2ch8](http://creation.com/re2ch8); [creation.com/refutingch3](http://creation.com/refutingch3)
3. Where is there *less* evidence for evolution, between closely-related species or between distantly-related species (in different phyla)? Which would require more transitional species? [creation.com/fossils#missing](http://creation.com/fossils#missing)
4. Does the 'creationist orchard' or the evolutionary 'tree of life' fit the fossil record better? [creation.com/creationist-orchard](http://creation.com/creationist-orchard)
5. Why is the Cambrian Explosion a significant problem for evolution? [creation.com/exploding-evolution](http://creation.com/exploding-evolution)
6. Is the fossil record 'incomplete'? How can we tell?
7. What are living fossils and why are they a challenge to evolution? [creation.com/werner](http://creation.com/werner)
8. What is the creationist explanation for Neanderthal man? [creation.com/anthropology#neandertals](http://creation.com/anthropology#neandertals)
9. Why are the abundant soft, unfossilized tissues found in dinosaur bones a challenge to evolutionary time frames? [creation.com/dinosaur-soft-tissue](http://creation.com/dinosaur-soft-tissue)
10. Discussion question: Is the fossil record a friend or foe of evolutionary theory? Why or why not?

## Chapter 5: The Geologic Record

For additional information consult Chapter 5 in the book *Evolution's Achilles' Heels* and our geologic record Q&A: [creation.com/geology](http://creation.com/geology)

Questions:

1. What is uniformitarianism? How did this idea influence early geology? Is it still accepted today?
2. Is it fair to extrapolate slow, modern processes into deep time?
3. How has Mt. St. Helens helped bring catastrophism back into modern geology?
4. What evidence is there for catastrophic plate tectonics?
5. Explain the formation of tightly folded rocks in the context of Noah's Flood: [creation.com/warped-earth](http://creation.com/warped-earth)
6. Do present processes explain what we see in the rock record? Why not?
7. How do catastrophic processes contradict the idea that the rock record took millions of years to form?
8. Discussion question: Is the geologic record a friend or foe of evolutionary theory? Why or why not?

## Chapter 6: Radiometric Dating

For additional information consult Chapter 6 in the book *Evolution's Achilles' Heels* and our radiometric dating Q&A: [creation.com/dating](http://creation.com/dating)

Questions:

1. Do radiometric dating techniques give us a direct way to measure the age of rocks? Why not?
2. List the assumptions behind most radiometric dating techniques: [creation.com/radioactive-dating-failure](http://creation.com/radioactive-dating-failure)
  - a.
  - b.
  - c.
3. Is there any evidence that decay rates might not be constant? [creation.com/radio-decay](http://creation.com/radio-decay)
4. Why do historical lava flows “date” to millions of years old? Should we then trust “dates” of millions of years for prehistoric lava flows? [creation.com/radio-conflict](http://creation.com/radio-conflict)
5. Do the “dates” for rocks always line up with the “dates” for the fossils within those rocks? [creation.com/fossil-wood](http://creation.com/fossil-wood)
6. Why is the presence of carbon 14 in coal, diamonds, and fossils a challenge to the evolutionary timeframe? [creation.com/cab4](http://creation.com/cab4); [creation.com/diamonds](http://creation.com/diamonds)
7. Discussion question: Is radiometric dating a friend or foe of evolutionary theory? Why or why not?

## Chapter 7: Cosmology

For additional information consult Chapter 7 in the book *Evolution's Achilles' Heels* and our astronomy and astrophysics Q&A: [creation.com/astronomy](http://creation.com/astronomy)

Questions:

1. Is cosmology experimental science? How many universes do we have? Can we repeat the 'experiment'?
2. Can we see the entire universe?
3. Has there been enough time, even in the big bang model, to even out the temperature of the universe (i.e., "the horizon problem")?
4. Are there any principles of physics that explain or predict the beginning of the big bang?
5. Are there any principles of physics that explain or predict the start or the end of the "inflationary" period of the big bang? [creation.com/inflation-higgs](http://creation.com/inflation-higgs)
6. Are there any contradictions to the idea that redshift = distance? [creation.com/doppler-toppler](http://creation.com/doppler-toppler)
7. What are the three "fictitious entities" used to prop up big bang theory? [creation.com/big-bang-not-a-reason](http://creation.com/big-bang-not-a-reason)
  - a.
  - b.
  - c.
8. How much of the big bang universe is composed of dark matter and dark energy? Why were these two things added to the big bang model?
9. Is big bang cosmology a friend or foe of evolutionary theory? Why or why not?



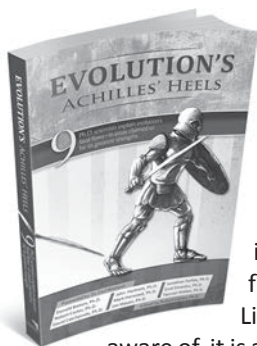
## Chapter 8: Ethical Implications

For additional information, consult Chapter 8 in the book *Evolution's Achilles' Heels* and our morality and ethics Q&A: [creation.com/morality](http://creation.com/morality)

Questions:

1. How does philosophy influence evolutionary theory?
2. What might happen to a scientist who disagrees with evolution?
3. If evolution is true, certainly people can *act* morally, but is there a logical foundation for morality?
4. How many different "moralities" do we find in the animal world?
5. How did evolutionary theory influence major events in the 20th century?
6. Is it possible to reconcile death and suffering with a loving God? (Rom 5:12)
7. Is there enough evidence in the natural world to know that there is a creator? (Rom 1:20)
8. How can a person be saved? (Rom 10:9)

## Recommended resources



### ***Evolution's Achilles' Heels***

This powerful book (illustrated in full colour) exposes the fatal flaws of evolutionary thinking. Like no other work that we are aware of, it is authored by nine Ph.D. scientists to produce a coordinated, coherent, and powerful argument. All of the authors received their doctorates from similar secular universities as their evolutionary counterparts, and each is a specialist in a field relevant to the subject written about: natural selection, origin of life, geology, genetics, radiometric dating, the fossil record, cosmology, and ethics.

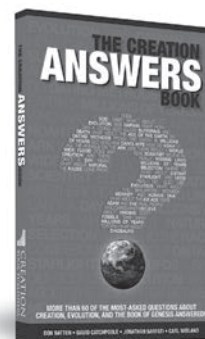
*Evolution's Achilles' Heels* directly demolishes the very pillars of the belief system that underpins our now-secular culture—evolutionary naturalism, and is coupled with the biblical command to reach the lost with the Bible's Good News. In a nutshell, it's a comprehensive outreach tool like no other. Available as an eBook on creation.com.



### ***Refuting Evolution***

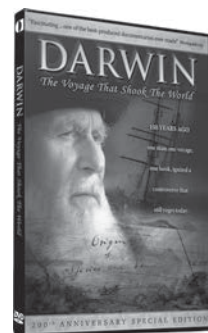
This is a hard-hitting critique of the most up-to-date arguments for evolution, to challenge educators, students and parents. It is a powerful, yet concise summary of the arguments against evolution and for creation. It will stimulate much discussion and

help students and teachers think more critically about origins. This top-selling book has over 500,000 copies in print! Available as an eBook on creation.com.



### ***The Creation Answers Book***

This book provides biblical answers to over 60 important questions that everyone wants to know on creation/evolution and the Bible! Not only does it answer your questions, but it equips you to effectively respond to those that resist the Gospel due to worldly teaching on origins. This important work is a 'must have' for anyone's library! Available as an eBook on creation.com.



### ***Darwin: The Voyage that Shook the World DVD***

In 1831 a young amateur scientist, Charles Darwin, boarded HMS Beagle on an epic five-year voyage of discovery. 2009 marked the 200th anniversary of Darwin's birth and the 150th anniversary of the publication of his book, *Origin of Species*. *The Voyage that Shook the World* retraces Darwin's journey, exploring the places and discoveries crucial to the formulation of his theory. Filmed in South America, UK, North America, Australia and Europe, *The Voyage* features dramatic period recreations and stunning nature cinematography interwoven with scholars sharing their perspectives on the man and the controversy. A fascinating and thought-provoking opportunity to gain new insight into *The Voyage that Shook the World*. Available as a video download on creation.com.