## Answers to **FLOODED** Chapter Questions

### Part 1—Flooded with Creativity: The World Before the Flood

#### INTRODUCTION

- 1. How is Genesis 1:28 a commandment from God to engage in science? In order to "subdue" and "have dominion over" the Earth and its creatures, a person must engage in science.
- 2. What phrase is used in Romans 1:20 that describes what humans can study to learn about God? "the things that are made"
- 3. What action by God in Genesis 2:19 began the scientific field we call "biology"? Bringing the animals to Adam to name them
- 4. Name two passages where God encouraged the science of astronomy. Genesis 15:5; Psalm 19:1
- 5. What phrase in Job 38:33 refers to the laws of science? "ordinances of the heavens"
- 6. What phrase in Job 12:8 encourages geology? "speak to the Earth and it will teach you"
- 7. Name five of the specific living things mentioned in the Bible that God used to teach humans lessons? Eagle, serpent, ant, rock badger, locust, spider, moth, bird, lily, grass, dog, swine, grape, thorn bush, fig, thistle, sheep, sparrow, horse, donkey, lions, ravens, wild mountain goats, deer, wild donkey, wild ox, ostrich, stork, hawk, Behemoth. Leviathan
- 8. List three "fathers" of science who were creationists. Johannes Kepler; Robert Boyle; Samuel F.B. Morse; Wernher Von Braun; Louis Pasteur; Lord Kelvin; Sir Isaac Newton; Faraday; Antonio Snider-Pellegrini
- 9. What is a "naturalist"? Someone who tries to explain everything in the Universe using only natural (not supernatural) activities.
- 10. List five features of the Universe that naturalism cannot explain. The origin of: the laws of science; the stuff that makes up the Universe; life; distinct kinds of life; the information in our genes; and the billions of examples of design.
- 11. In what New Testament passage does Peter predict that some people will not believe that anything supernatural ever happened?

2 Peter 3:3-6

12. How does Psalm 111:2 encourage the study of science?

By stating that the "works of the Lord" (like the Earth, Universe, and Flood) are "studied by all who have pleasure in

13. What are the two greatest works of the Lord that would affect how we understand our scientific observations?



14. What is the goal of "science" according to naturalists, and how does it actually differ from the true goal of science?

Naturalists: To find natural explanations for what we see in nature. True science does not qualify science by demanding only "natural" explanations for what we see in nature.

- 15. According to Genesis 1, how many literal days did God use to create the Universe and everything in it? Six
- 16. Instead of the term "species," what term does Genesis 1 use to describe the groups of creatures God made during Creation week?

  Kinds
- 17. What are six evidences from Genesis 1-2 that tell us that the Universe would have already appeared "old" when it was first created?

Distant starlight could be seen from Earth; animals were not still in the womb when being named by Adam; the Garden's trees were mature and bearing fruit; Adam was able to talk; Adam was able to tend the Garden; Adam was able to have children

**18.** What Bible passage records the first sin? Genesis 3:6

19. What Bible passage describes how God "cursed" the Earth? Genesis 3:17-18

**20.** What are four examples of animal "kinds" that God probably created during Creation week? Dog, cat, elephant, and bear kinds

#### **CHAPTER 1—PRE-FLOOD ANIMALS**

- What seven categories of life did God create during Creation week?
   Humans, swimming creatures, flying creatures, land beasts, cattle, creeping things, and plants
- 2. According to Genesis 1:26, what living creatures were made in the "image of God"? Humans
- 3. What are five human abilities that set us apart from animals?

  Humans have a soul and a conscience, worship, speak, write, gain knowledge, are creative, have free will, can choose between right and wrong, experience emotion, and will live forever.
- 4. What is a fossil, and what is it **not**?

  Leftovers (replicas) of a life form, typically, as a rock; it is not the original organism or body part
- 5. Why do we not see fossilization happening much today?

  The conditions that are required to form a fossil are rarely met today.
- 6. What has to happen to preserve a creature for fossilization?

  It has to be rapidly buried by mud, silt, lava, tar, or amber and protected from oxygen and scavengers.
- 7. What are the two basic fossil types, and how are they different?

  Body fossils (which preserve the actual parts of the animal/plant) and trace fossils (which preserve their tracks or activity)

#### 8. What is the difference between a "mold fossil" and a "cast fossil"?

Mold fossil: the empty impression of a decayed/dissolved organism; Cast fossil: a fossil formed by sediment filling a mold fossil and lithifying

#### 9. Describe the permineralization process.

The dissolved hard parts of a buried organism are gradually replaced with minerals from water that lithify, eventually leaving a mineralized replica of the original organic material.

#### 10. What is "geology"?

The study of the Earth, its features and history.

#### 11. List five tools that are used by geologists and paleontologists as they study the Earth.

GPS, putty knives, paint brushes, glue, dental-like tools, notebooks, cameras, putty

#### 12. Which groups of "canids" probably belong in the "dog kind"?

Domestic dogs, wolves, coyotes, foxes, jackals, and dingoes

#### 13. Explain how we can study what living creatures were like **before** the Flood.

We can study the fossils that were formed before the Flood and the fossils formed during the Flood, which represent a snapshot of what creatures looked like when the Flood began.

#### 14. What are the four basic sections of the fossil record?

Pre-Cambrian, Paleozoic, Mesozoic, and Cenozoic

### 15. Instead of being a record of life over millions of years, what is the fossil record a record of according to biblical creationists?

A record of death during the Flood.

### 16. From a biblical perspective, when were the Pre-Cambrian rocks and fossils likely formed? Before the Flood

### 17. From a biblical perspective, when were the Paleozoic and Mesozoic rocks and fossils likely formed? During the Flood

### 18. From a biblical perspective, when were most of the Cenozoic rocks and fossils likely formed? After the Flood

#### 19. What does the fossil record, from bottom to top, seem to be recording?

The progression of the Flood as it destroyed the Earth

### 20. According to the fossil record and Genesis 7:11, where did the Flood probably begin?

In the oceans

### 21. According to the fossil record, where did the creatures that were first buried by the Flood live?

On the ocean floor

#### 22. Name two groups of creatures that lived on the ocean floor.

Brachiopods and Arthropods

#### 23. Name two groups of cephalopods that lived before the Flood.

Nautiloids and Ammonites

#### 24. In what group of creatures do scientists place *Dimetrodon*?

Cynodonts



- **25.** Compare the lengths of larger crocodiles today versus *Sarcosuchus*. Over 20 feet long vs. 40 feet long
- **26.** What are the two main groups into which scientists divide dinosaurs today? Ornithischian and Saurischian
- **27.** What are some of the distinguishing characteristics of ornithischian dinosaurs? Similar pelvises, beak-like mouths, herbivores
- 28. What are the two sub-groups of saurischian dinosaurs, and what are some of the distinguishing characteristics of each group?

Theropods (hollow bones, three fingered appendages, usually carnivores, bipedal, share some similarities with birds) and Sauropods (quadruped, long necks, long tails, relatively small heads, herbivores, some were the largest animals ever to live on land)

- 29. What creature in the Bible might have been a sauropod dinosaur?

  Behemoth
- 30. What are four contributing factors that could explain the great size of the dinosaurs (and other pre-Flood life)?

Oxygen level of Earth's atmosphere, less radiation, less disease, less genetic mutation, the Earth's magnetic field strength

- 31. What are the three most well-known marine reptile groups that lived before the Flood? Plesiosaurs, mosasaurs, and ichthyosaurs
- 32. Which marine reptile group had sauropod-like swimming creatures? Plesiosaurs
- 33. What creature described in Job 41 was apparently a marine reptile that could breathe fire?

  Leviathan
- 34. When did Megalodon live, according to the fossil record? After the Flood and before Abraham (during the Ice Age)
- 35. What is the name for the group of flying reptiles found in Flood rock layers?

  Pterosaurs
- 36. What are two of the problems with arguing that since Archaeopteryx had claws and teeth, it must be a transitional fossil between dinosaurs and birds?

There are modern birds with claws and teeth which are not argued to be transitional. Fossils of admitted birds are found in rock layers thought to be millions of years older than the rock layers in which *Archaeopteryx* were found.

- 37. What group of dinosaurs do evolutionists argue birds resemble? Theropods
- 38. Structural similarities between creatures do not necessarily mean they share a common \_\_\_\_\_\_.

  Ancestor
- **39.** Similarities between birds and dinosaurs point to a common \_\_\_\_\_\_. Designer



40	Biological classification using the clade system is not designed to detectinstead,  Differences; similarities	between species but,
41.	Clade classification assumes, but biblical Creation teaches Continuity; discontinuity	between species.
42.	What is the biblical creationists' biological classification system called?  Baraminology	
43.	What national park could you visit to see examples of pre-Flood trees?  Petrified Forest	
44. What are three examples of fossils that probably formed before the Flood began?		

#### **CHAPTER 2—PRE-FLOOD HUMANS**

- 1. List five capabilities humans had from the beginning, that prove humans did not have to evolve mentally. Built cities; farmed; kept livestock; designed musical instruments; worked with bronze/iron
- 2. List four things about the pre-Flood world that could have contributed to the lifespans of the patriarchs listed in Genesis 5.

Fewer genetic mutations in their bodies; lingering genetic effects of eating the Tree of Life; higher levels of oxygen and carbon dioxide; less radiation

3. The Earth's population at the time of the Flood was probably at least how many people? 215,000,000

Spriggina, Kimberella, Charniodiscus, algae, protists, stromatolites, microfossils

- 4. From where does the ultimate evidence for giant humans come?

  The Bible
- 5. Which king in the Bible may have been 13 feet tall?

  Og
- 6. How tall was Goliath? 9 feet 9 inches
- 7. Which variety of human, found in the fossil record, was probably well over seven feet tall? Homo heidelbergensis
- 8. What are "angiosperms"? Flowering plants
- 9. What is, perhaps, the most likely explanation for why humans, many mammals, and angiosperms are not found in the rock layers formed by the Flood?

The human/mammal/angiosperm habitat was destroyed (subducted) during the Flood.

10. How tall was Robert Wadlow? 8 feet 11 inches



#### **CHAPTER 3**—PRE-FLOOD EARTH

1. What is "continental drift"?

The theory that the Earth's continents were once joined together as one continent and have since drifted apart

2. Who is usually given credit for the idea of continental drift, and who actually published evidences for continental drift over 50 years earlier?

Alfred Wegener; Antonio Snider-Pellegrini

3. What are the three main parts of the Earth's internal structure?

core; mantle; crust

4. Into what is the Earth's crust broken?

Tectonic plates

5. What causes an earthquake?

The edges of tectonic plates grinding past one another

6. What is the difference between convergence, subduction, divergence, and transform plate boundaries? Convergence: two continental plates moving into each other; Subduction: convergence where one plate moves downward below the other plate into the mantle; Divergence: two plates moving away from one another and allowing new material from the mantle to surface and fill the gap, forming mid-ocean ridges when in the ocean; Transform: two plates sliding past one another

7. Which type of plate movement forms mountains?

Convergence

8. Which type of plate movement forms volcanoes and ocean trenches?

Subduction

9. Which type of plate movement forms mid-ocean ridges?

Divergence

10. List five evidences of plate tectonics.

earthquake epicenter locations, seafloor age, ocean floor magnetic stripes, GPS, supercontinents

11. List three evidences of Pangaea.

Matching fossil distributions, rock layers, and mountain chains across continents when they are pieced together; reversing current continental movement would point them towards their placement in the Pangaea supercontinent; Genesis 1:9-10

12. What is "Rodinia"?

The supercontinent believed by many to have existed prior to Pangaea

13. What North American mountain range provides evidence of Rodinia?

The Appalachian Mountains

14. What is another word used to translate "firmament" in Genesis 1:6?

Expanse

15. What is the Hebrew word translated as "firmament"?

ragia



16. In what three ways was the word for "heaven" used by the Hebrews in the Bible? Sky; outer space; the place in which God lives

# Part 2—Flooded with Water: The Deluge

#### **CHAPTER 4**—WHAT HAPPENED IN THE FLOOD?

1. What caused God to send the Flood?

The wickedness of humanity

2. What caused the Earth to become so wicked (Genesis 6:1-2)?

The sons of God married the daughters of men

- 3. What passage tells us that Noah preached to the people of the Earth while building the Ark? 2 Peter 2:5
- 4. Who were the two men who came up with and popularized the idea of "uniformitarianism"? James Hutton and Charles Lyell
- 5. What is "uniformitarianism"?

The geologic theory that those things which are happening today to the Earth have always happened and in the same way in the past—"the present is the key to understanding the past"

6. What is "catastrophism"?

The theory that major, unusual catastrophes have happened in the past that caused a lot of geologic change in a short amount of time

- 7. In what Bible passage does Peter warn about people with uniformitarian thinking? 2 Peter 3:3-5
- 8. What are three examples of catastrophism?

Mount St. Helens volcano eruption; petrification rate; Chicxulub meteorite crater

- 9. What are three chapters in the Bible that give helpful information about the Flood? Genesis 6-9; Psalm 104
- 10. What is the creationist theory that helps to explain what might have happened in the Flood? Catastrophic Plate Tectonics
- 11. What Flood activity is mentioned in the Bible that may have created the tectonic plates? "all the fountains of the great deep were broken up" (Genesis 7:11)
- 12. What have scientists discovered under subduction zones that supports creationists' theory about the Flood? Huge piles of rock in the mantle
- 13. What are three purposes of the Bible's genealogies?

To outline the ancestry of Jesus; to clarify that biblical events and people were real; to help us know when people lived and biblical things happened

14. According to a straightforward reading of the genealogies (and what we know from key events of history), about how many years ago was the Flood?

4,400



#### 15. What are four problems with the idea that there are gaps in the Genesis 5 genealogies?

There would have to be millions of gaps to make the Bible match evolution; Adding gaps when humans are already alive does not help explain most of the geologic column and fossil record since humans do not appear until the very top; Arguing that there are gaps uses eisegesis interpretation instead of exegesis; Since there are many evidences of a young Earth and Universe, adding gaps would make the text contradict the scientific evidence; The dating techniques used to prove an old Earth are faulty; Jude 14

- 16. When a radioactive isotope decays over time, what are the beginning and ending isotopes called?

  Parent and daughter isotopes
- 17. The main problems with old Earth dating techniques are the \_\_\_\_\_ upon which they are based.

  Assumptions
- 18. What are three of the assumptions of radiometric dating techniques that prove them to be unreliable in determining absolute age?

The rock was initially composed only of parent element; the nuclear decay rate was the same throughout the decay process; the amount of parent/daughter elements was not affected by anything other than decay

#### 19. What are six scientific evidences that suggest the Universe is young?

C-14 in "ancient" fossils/materials; soft tissue/blood vessels in dinosaur fossils; tightly folded rock strata; human population statistics; build up of sea floor sediment; decay of Earth's magnetic field; faint young Sun paradox; Moon recession rate; helium content in the atmosphere; young spiral galaxies

#### 20. What is the difference between operational and historical science?

Operational: science is carried out which shows how things work today; Historical: science is carried out which attempts to learn about the past using the science of today

### 21. What type of scientists study indirect evidence from crimes which they did not witness to learn about the crimes?

Forensic scientists

## 22. What are six examples of the effects of catastrophism that can be learned from studying Mount Saint Helens eruptions?

Rapid sedimentation; rapid strata formation; rapid lithification; sub-annual varves; rapid peat formation; upright logs deposited in Spirit Lake

23. What is the name given to tiny organisms that are able to live and thrive in extreme environments like volcanoes?

Extremophiles

24. Upon studying the remains of their activity, what have some scientists suggested may have initiated the Flood?

Meteorites



#### **CHAPTER 5—WAS THE FLOOD GLOBAL?**

1. What are five biblical evidences that the Flood was global?

If not: why build a huge Ark instead of leaving the area?; why not send the animals away from the area instead of to the Ark?; how could the waters cover all the mountains?; how could all men and beasts be destroyed?; God lied by promising never to again send such a Flood, since local floods happen; Judgment Day would not be universal; how would the seasons be affected?

2. In order to prove a scientific theory, what must scientists be able to make, that can verify or falsify the theory upon testing them?

**Predictions** 

3. What are five scientific evidences that the Flood was global?

Sedimentary rock layers extending across and between continents; marine fossils on continents and mountains; catastrophic burial; Cambrian explosion; rapid rock layers; long distance sediment travel; lack of erosion between rock layers; "unearthly" seismites

- 4. What special layers were discovered by Drs. Kurt Wise and Jeff Miller in Wyoming that provide powerful proof of Catastrophic Plate Tectonics and the Flood?

  Seismites
- 5. How many legends of a Flood have been documented by historians?

  Over 250
- 6. Give two examples of ancient Flood legends told among the people of the world. Hindu Flood legend of Manu and Matsya; Aztec flood legend

#### **CHAPTER 6**—GLOBAL FLOOD QUIBBLES

- 1. Explain where the water from the Flood probably went after the Flood.

  Back to the oceans after the sea floor cooled and sank
- 2. What are two possibilities for how the plants of the Earth could have survived the Flood? Brought on the Ark; survived being underwater; re-germination after Flood recession
- 3. Based on the fossil record, how do we know that dinosaurs would have been on the Ark?

  Dinosaur fossils are found in the rock layers formed during the Flood, which means they were alive when the Flood began. Being land creatures, they would have been represented on the Ark.
- 4. Based on archaeological evidence, how do we know that dinosaurs were on the Ark?

  Archaeological artifacts from after the Flood record the fact that humans saw dinosaurs, including the Cambodian stegosaur, Anasazi Apatosaurus petroglyph, and Ica stones
- 5. Based on historical evidence, how do we know that dinosaurs were on the Ark?

  Post-Flood "dragon" legends and accounts by ancient, respected historians (like Herodotus, Josephus, and Marco Polo) indicate humans saw dinosaurs after the Flood.
- 6. Based on biblical evidence, how do we know that dinosaurs were on the Ark?

  The book of Job, written after the Flood, records the existence of dinosaur-like creatures after the Flood (Behemoth and Leviathan).



- 7. What is the biblical term used to describe the animal representatives that were on the Ark?
- 8. What among the living things of the Earth did Noah not have to bring on the Ark? Not all plants, insects, invertebrates, fungi, bacteria, or protozoa
- 9. How could the dinosaurs have fit on the Ark?
  The average size of a dinosaur is the size of an American Bison. Also, they were likely juveniles.
- 10. Give four reasons why the dinosaurs on the Ark were probably juveniles.

  Juveniles would take less space, need less food, make less waste, and survive longer to re-populate the Earth after the Flood.
- 11. What are some reasons to conclude that Noah would have been capable of building the Ark?

  Boat technology could have existed before the Flood; Noah could have hired help; Noah could have learned in the century or more he had to build the Ark.
- 12. Why would the Ark not have had the twisting and buckling problem that the Wyoming had? The Ark would not have needed sails.
- 13. What is "gopher wood"? Nobody knows.
- 14. What is an example of a modern type of sea vessel with a very similar dimension ratio to that of the Ark? Very Large Crude Carrier
- 15. What are three possibilities for why the dinosaurs went extinct after the Flood?

  Hunted; ill-equipped for the Ice Age; starved from lack of post-Flood vegetation for a period of time
- 16. What are four reasons why the secular explanation for the dinosaur graveyard in Newcastle, WY is wrong and the biblical Flood is right?

The orientation of the fossils do not match a river deposition orientation; the fossils are not piled, as though on a river bend; the bones are disarticulated; the bones are found in a single, graded bed, rather than separate, stacked beds.

17. What is "ichthyology"?

The study of fish

18. What are two possibilities that could explain how freshwater and saltwater fish could have survived the Flood?

Haloclines; euryhaline fish

19. What is "hybridization"?

The process of two different types of creatures mating to form a hybrid.

20. What is the difference between "macroevolution" and "microevolution"?

Macroevolution (Darwinian evolution): the theory that all organisms on the planet slowly evolved from previous, simpler organisms, starting originally with a simple cell; Microevolution: small changes within kinds of creatures over time, such as color and size, within narrow limits



#### **CHAPTER 7**—THE ICE AGE: SCIENCE AND THE BIBLE

- 1. What are two evidences that suggest the polar ice caps used to extend much farther than they do now? Parallel striations on ground surface rocks that extend over miles of plains; till and moraine
- 2. What percentage of the Earth's land surface is covered with ice today, and what percentage was covered during the Ice Age?

10%; 30%

- 3. What three things would be needed to cause an Ice Age?
  Cooler summers; more moisture; persistence of those factors
- 4. Did the Ice Age happen before or after the Flood, and how do we know?

  After; The evidences of the Ice Age are found in the Cenozoic rock layers, which were formed after the Flood.
- 5. In what strata of the Cenozoic rock layers are the evidences for the Ice Age? Pleistocene
- 6. Was the Ice Age before or after the time of Abraham?

  Before
- 7. How does the Ice Age explain the "old" age of the Bristlecone pine trees?

  The Ice Age would have created the perfect weather for the formation of more than one "annual" tree ring in a single year.
- 8. How does the Ice Age explain the hundreds of thousands of "annual" ice layers in the ice cores of Greenland? The Ice Age would have created the perfect weather for hundreds of "annual" layers of ice to form each year after the Flood for many years.
- 9. What does "explanatory power" mean, regarding a scientific theory? The ability of a scientific theory to explain a lot of scientific observations
- 10. What are four examples that show the explanatory power of the Flood Ice Age theory?

  A single Ice Age explains why extinctions only happened once; Cold and warm animals lived together because the summers were milder; Wet deserts were caused by the extra rain from the Ice Age; Animals could cross over frozen channels; Canyons could be carved quickly due to Ice Age dam breaches; A trigger to begin the Ice Age is predicted by the Flood
- 11. What are four ways that animals could have traveled across water between continents after the Flood? Closer continents; log "islands"; land bridges; frozen channels; humans carried them
- 12. What are three things about Global Warming that have not been proven? that Global Warming would be bad; that humans have been a significant cause of the Earth's temperature increase; that humans could reverse Global Warming if we wanted to
- 13. According to Creation scientists, in relation to the Flood, what might Global Warming be? The Earth returning to the pre-Flood climate that God originally designed for the Earth
- 14. List two passages that teach that humans are more valuable to God than animals and plants. Matthew 6:26,30; Matthew 10:31; 12:12; Luke 12:24



- 15. What passage tells us about the kind of Global Warming humans should be concerned about? 2 Peter 3:10-12
- **16.** What are five animals whose fossils appear in the Ice Age rock layers? Smilodon, Woolly Mammoth; Megalonyx; Glyptodon; Snowy Owl; Megalodon; Giant Beaver
- 17. Why is it reasonable to assume that Ice Age animals would have looked more like the animals that were on the Ark?

The Ice Age would have been only a few decades after the Flood, before much of the diversification we see today had happened.

18. What four species are all probably part of the elephant "kind"?

Asian elephants; African elephants; Woolly Mammoths; Mastodons

19. What are three species that belong in the horse kind?

Donkeys; zebras; modern horses

20. What are five species that belong in the cat kind?

Domestic cats, lions, tigers, leopards, jaguars, lynxes, bobcats, cougars, cheetahs, ocelots, Smilodons

21. What are two species that belong in the camel kind?

Dromedary camels; Bactrian camels; llamas

22. What are five species of bears?

Polar; Brown; Sun; Sloth; American Black; Asiatic Black; Andean; Giant Panda; Cave; American Giant Short-Faced

23. What does "nocturnal" mean?

A creature that hunts at night

24. What does "diurnal" mean?

A creature that hunts during the day

- 25. What are three characteristics/behaviors of Snowy Owls that make them perfectly designed for the Arctic? They are diurnal; have camouflaged, dense, thick feathers; have ears that are able to hear animals below vegetation/snow; eat creatures that live in the Arctic
- **26.** How long could the Giant Beaver grow to be? 8 feet

#### **CHAPTER 8**—THE ICE AGE: HUMANS AND BABEL

- How does evidence for the Ice Age also provide support for the biblical Flood?
   While secular Ice Age models are unable to find a trigger to begin an Ice Age, the Flood provides a perfect trigger.
- 2. What are two of the ancient legends found among the people of the world that seem to verify that the Tower of Babel incident happened?

Toltec Babel legend; Burmese Babel legend

3. What are two predictions related to the Tower of Babel that biblical creationists would make that would help verify that the incident happened?

Legends of the event would have been passed down about the event; modern languages can be traced back to groups of original languages with no evidence of common ancestry



4. On what day of Creation week does Genesis 2 elaborate?

5. What are four verses in Genesis 10 that suggest that the genealogies of that chapter record the family units that were alive on the Earth when the Tower of Babel happened?

Genesis 10:10,11-14,18,20,31,32

6. What "division" is probably being referred to regarding Peleg in Genesis 10:25?

The dispersion on the Earth that occurred due to God mixing up the languages at Babel.

7. Why is Genesis 10:25 probably **not** referring to Pangaea?

Pangaea had probably broken up a century earlier, in the Flood. In context, Peleg's name better refers to the division that happened after Babel.

8. Roughly how long after the Flood did the Tower of Babel incident probably happen? A century

9. What are five of the Homo varieties that probably belong in the "human kind"?

Homo erectus, Homo heidelbergensis, Homo neanderthalensis, Homo naledi, Homo floresiensis, Homo sapiens

10. In what rock layers are the Giza Pyramids found?

11. Were the Giza Pyramids likely built before or after the Flood and why?

After, since they were built in Cenozoic rock layers which were deposited after the Flood.

12. Why might it be the case that animal fossils are found spread across the planet in rock layers immediately after the Flood, but humans are not found until later?

Animals dispersed immediately as God intended, but humans did not disperse until Babel, about a century later.

- 13. In which specific rock layers of the Quaternary layers in the geologic column are human fossils first found? Pleistocene
- 14. What evidence from the geologic record and Bible suggest that Abraham lived after the Ice Age?

  There is no evidence of human cities in Ice Age rock layers, but cities existed by the time of Abraham (Genesis 13:12).
- 15. What are two Bible passages that teach that all humans are related? Acts 17:26; Genesis 3:20
- 16. What is the name of the table that can be used to know the likely physical characteristics that would result if two people have children?

Punnett Square

17. What would Adam and Eve have to be, genetically, to have the skin tones represented in the diagram on p. 140?

Heterozygous

**18.** When did Eve live, according to recent mitochondrial DNA studies? 7,000-9,000 years ago

19. How many lineages of mitochondrial DNA have been shown to exist today, and when did those lineages first arise?

Three; 3,500-4,300 years ago



20. According to studies of Y-Chromosomes, how many years ago did Adam live?

Fewer than 10,000 years ago

21. What are two evidences that suggest Job lived after the Flood?

Job 22:15-16 mentions a flood; Job's age fits better in the post-Flood age range; Job's country was likely named after Noah's grandson, who lived after the Flood

22. What are four evidences that suggest Job lived at roughly the time of Abraham?

Job, instead of priests, offered burnt offerings; the book is silent about things concerning the Law of Moses, the plagues, etc.; a type of money mentioned in the book fits in the Patriarchal period; Job's riches are measured by livestock rather than money; the destruction of Sodom and Gomorrah is not mentioned, though Job probably lived near them; Job's age fits well in the time of Abraham based on Genesis 11

23. Name a passage in Job that mentions caves and one that mentions ice.

Caves: 24:4-8; 30:3-8; Ice: 6:16; 37:10; 38:29-30

#### **CHAPTER 9**—THE ICE AGE: CAVES

1. What are two Bible stories that include references to caves?

Lot and his daughters fleeing Sodom and Gomorrah; Abraham's purchase of a cave in which to bury Sarah; Lazarus was buried in one

2. What are the most common kinds of caves?

Karst or solution caves

3. What is added to water to form carbonic acid?

Carbon dioxide

4. Is carbonic acid strong or weak?

Weak

5. Is sulfuric acid strong or weak?

Strong

6. What is the name of the fast cave forming process that uses sulfuric acid?

Hypogene speleogenesis

7. Which cave forming acid comes from above a cave and which comes from below?

Carbonic; Sulfuric

8. What gas from volcanoes, when added to water and oxygen, forms sulfuric acid?

Hydrogen sulfide

9. What are four cave features which would be predicted to exist in caves formed from sulfuric acid?

Feeders; channels; cupolas; gypsum

10. What is a "speleothem"?

A cave feature that forms in a cave from the movement of water

11. Are speleothems primary or secondary features?

Secondary



#### 12. What are five types of speleothems?

Stalagmites; stalactites; soda straws; columns; cave bacon; flow stone; cave pearls

#### 13. How do stalagmites and stalactites form?

Rainwater picks up carbon dioxide as it seeps through the ground and dissolves the limestone above a cave along the way. When it reaches the cave, the carbon dioxide is released, leaving calcite that sticks to the top of a cave (stalactite) or drops to the ground (stalagmite).

#### 14. What are three factors that affect how fast speleothems grow?

Amount of rain; surface air temperature; drip rate in cave; droplet concentration; level of carbon dioxide in the soil

- 15. What are two Ice Age conditions that would have likely contributed to fast speleothem growth? More rain; higher carbon dioxide in the soil from dead plants/animals; lower temperature
- 16. According to secular geologists, what is considered to be the average growth of speleothems today?

  O.01 inches per year
- 17. What is an example of a cave that exhibits speleothem growth much faster than the secular claim? Squire Boone Caverns in Mauckport, IN
- **18. Into what "ages" do archaeologists divide "early human history"?** Stone Age; Bronze Age; Iron Age
- 19. From a biblical perspective, what would the Iron and Bronze Ages correspond to? Iron Age: from David to today; Bronze Age: just before Abraham to David

#### 20. What is a nomad?

A person who did not live in one place, but wandered the land following herds

21. From a biblical perspective, what would the Stone Age correspond to?

The post-Flood Ice Age and Babel dispersion period

22. Why were humans likely nomads during the Stone Age?

They were spreading across the planet after Babel.

23. Why would biblical creationists predict that "early" man was likely more intelligent than us?

Humans were genetically and anatomically perfect at the beginning, and they lived much longer lives.

24. Who are four scientists who accidentally discovered or invented something scientifically important, and what did they discover/invent?

Alexander Fleming (penicillin); Sir Isaac Newton (gravity); Thomas Edison (light bulb, after thousands of tries); Wilhelm Roentgen (X-Rays); Henri Becquerel (radioactivity); Charles Goodyear (rubber tires); Edward Jenner (first vaccine); Leo Baekeland (bakelite); Percy L. Spencer (microwaves); Wilson Greatbatch (pacemaker)

25. What are four factors that would explain the rapid rise in technology over the past two centuries that have nothing to do with human evolution?

World population; more and better communication; accidental important discoveries; God's Providence

26. What are three archaeological discoveries that prove ancient humans were highly intelligent?

High-tech boats with mortise and tenon joints; precise maps; advanced astronomy, chemistry, hydraulic engineering, and weaponry; successful skull surgery; sophisticated aqueducts (Puquios); civil engineering (towers, ziggurats, pyramids); batteries; advanced canal system



#### 27. What are three species that live in caves?

Cave bears; bats; camel crickets; cave fish; cave crayfish; cave salamanders

#### **CHAPTER 10**—THE ICE AGE: THE GRAND CANYON

1. What does "original horizontality" refer to in geology?

The assumption in geology that the sediment that forms the rock layers of the Earth was originally deposited horizontally

2. What does "superposition" refer to in geology?

The assumption in geology that in a sequence of rock layers, if they are in their original positions/orientations, the lower layer was laid down first and is, therefore, older than the layer on top of it

3. What does "cross-cutting" refer to in geology?

The assumption in geology that a rock layer had to already be in existence for it to be "cut" (by wind/water, a fault/earthquake, or intrusion from lava pushing up from below the rock layer)

4. What is an example sometimes used by secular geologists to prove that the Grand Canyon is millions of years old?

Comparing the deposition rate of sand particles in desert sand dunes with the thickness of the sandstones in Grand Canyon

5. What are two evidences that support the creationist belief that the sandstone layers of the Grand Canyon were formed from the Flood, not a desert?

Animal tracks on the sandstone were formed underwater; the sandstone layer angles match sand waves, not sand dunes

6. If long periods of time passed between rock layers, what would we expect to see when we study the joining surfaces of the rock layers, and why?

Dips and plunges from rivers, valleys, hills, etc., since time forms such features over time

7. How do we know that a major flood must have been responsible for some of the rock layers found in the Grand Canyon?

Some of the rock layers in the Grand Canyon are made of material whose sources are hundreds of miles away.

8. What is one of the secular theories about how the Grand Canyon was carved, and what is the problem with that theory?

The Colorado River slowly carved it over 70 million years. 1.3 million cubic miles of sediment should have been eroded and carried to the delta at the end of the River, but that sediment is not present.

9. What is one of the theories used by creationists to explain how and when the Grand Canyon was rapidly carved?

As the ice from the Ice Age melted, three icy lakes were left on the Colorado Plateau that breached, one-by-one, like dominoes, rapidly carving the Grand Canyon.

10. What are two modern examples of flooding that rapidly carved through rock?

Burlingame Canyon; Lake Missoula Flood; Glen Canyon Dam





#### **CONCLUSION**—WHAT WE (SHOULD) LEARN FROM THE FLOOD

1. Why would the appearance of a rainbow have been so significant to Noah and his family?

The storm clouds and volcanic aerosols in the sky would have blocked much of the sunlight reaching Earth for an entire year. The appearance of a rainbow meant that sunlight had returned and the Flood was over.

2. While many natural sites on the Earth are beautiful to look at, of what should mountains, many volcanoes, and many caves remind us?

The Flood, God's feelings about sin, and the holiness of God

3. What does it mean that God is "holy"?

He is set apart from the Earth, humans, and all gods created in the minds of men.

4. How did Nadab and Abihu fail to treat God as holy?

They made an unauthorized worship adjustment, raising themselves to an equal level with God (instead of keeping Him separate), as though they had the authority to create laws for people.

5. How is the gracious atonement for our sins accessed? Obedient faith

6. In what passage did Jesus remind His audience of the Flood? Matthew 24:37-39

- 7. After reminding his audience about the Flood, about what did Peter warn his readers in 2 Peter 3? Judgment Day, when Christ returns
- 8. Is "grace" mentioned more in the Old or New Testament?

  New Testament
- 9. Did God change from being a God of wrath in the Old Testament to being a God of grace in the New Testament? How do we know?

No. He does not change (Malachi 3:6), already being perfect (Matthew 5:48).

10. What did Noah find in the eyes of the Lord?

Grace

11. In at least what two ways did God show grace at the time of the Flood?

Noah and his family were saved; The wicked people of the Earth received patience and preaching.

12. What was the purpose given to the rainbow by God?

To remind the Earth of the Flood and God's commitment never to again destroy it with such a Flood

- 13. What basic requirement summarizes what God has always expected from man?

  Obedient faith
- 14. The Flood is a reminder of the judgment of God, but of what is it also a reminder? God's grace



- 15. How was Noah's obedient faith a condemnation of the world (Hebrews 11:7)?

  Noah's daily obedience was an unspoken message to those around him who were not obeying that he thought they were wrong in their behavior.
- 16. While Peter emphasized the judgment of God in 2 Peter 3, what side of God was emphasized in 1 Peter 3:20-21?
  God's grace