Science and Christianity

Instructor's Guide

The purpose of this course is to gain an understanding of five issues important in this interrelationship: 1) the nature of truth, 2) how the different sources of truth work, 3) how to separate truth from truth, 4) how to separate truth from fiction, and 5) the role of faith. This is an intermediate background course, not a law/gospel course *per se*, so the approaches and teaching styles can be different than in such courses.

In teaching more advanced topics, it is important for the instructor to realize the goal of his teaching. The saving truths are presented in the Scriptures, but they do not benefit a person's soul unless they are transcribed from the Scriptures onto the wall of faith in the mind and heart of the believer. Ideally, a Christian's faith will be a beautiful mural of all the teachings of the Bible appropriately linked with each other to give the Christian a perfect knowledge of God's will. This mural will never be completed in this world, but it is important that the Christian and those that teach him or her work to make it more complete. While pastors have a well-developed mural based on long and systematic training, laypeople often have scattered facts from the Bible placed here and there on their wall of faith. Sometimes they are misconnected with each other, and sometimes wrong information learned from non-Scriptural sources will be intertwined with Scriptural truth. In his presentation of the Scriptural material, the teacher will always try to guide his hearers so that they will put it into the correct place in the mural and make the correct attachments to the other materials that are there. This is what makes teaching the Word of God challenging and rewarding.

This course is intended to be sound biblical theology and an objective view of science. It discusses the difference in the mechanisms that science and theology use to establish truth and why these "truths" are bound to be incompatible.

Note that the study questions and answers are inserted in the teaching text where they might be used, but they can be moved in the actual presentation or ignored.

This course is set up to be taught in four 90-minute sessions, but the material in the lessons can be regrouped for any number of class periods that are available. From educational research we know that reading the material before the class, answering the study questions, and considering the issues that are being raised by the readings are essential to maximize learning. Students should be strongly encouraged to do so. It is good to close the lessons with hymns written by Lutheran lyricists. The texts of suitable hymns are included in the student notes.

I. The Nature of Truth

A. The standard of truth

1. How do we know what truth is? a) How do we understand Pilate's question – "What is truth?" John 18:38 b) How do we understand Jesus' statement – "You will also know the truth (God's Word is truth.), and the truth will set you free." John 8:32

   Q1. What is necessary to have something that can be called "truth"? A: A well-defined standard.

2. Need for a standard. Is the measurement by weight or by volume? a) Weight and volume are two completely different standards for measuring liquids. If one mixes one pound of water with one pound of alcohol, one has two pounds of product. If one mixes one liter of water with one liter of

alcohol, one does not have two liters of product. b) Things are different still if one mixes one mole of water with one mole of alcohol. What does an "equal mixture" mean?

3. Is the measurement by meter or by yard? a) Meters and yards are both measurements of length, but they cannot be used interchangeably. A space vehicle once crashed into Mars because the groups controlling it did not realize that one group was working in meters and the others in yards. b) Conversion between systems of units can cause misunderstandings and can be error-prone. How fast is 28.3 meters per second in furlongs per fortnight?

B. Need for a method for determining truth

Q2. What are the elements needed to establish truth? A: Standards, evidence, operators, and means to challenge proposed models.

1. An element or entity that everyone can agree upon. a) Such an element or entity is often called a **fact**. b) For example, "the tight end physically caught the football."

2. A method of determining the relevance of the fact. a) The method of determination is comparing it to a **rule**. b) Rules must be complementary and not conflicting. c) "Was the catch legal because the ball was caught inbounds?" Note that the decision might be different in college or professional football because the rules are different.

3. A means to challenge the correctness of the decision. a) The way to resolve whether a matter was judged correctly is often called the **review process**. b) A review process must be performed by someone other than the person who applies the rules. c) A football coach may throw a challenge flag to request a detailed review of the "catch."

4. Facts, rules, and review processes must be independent of each other. a) Rules cannot be used to generate facts. b) The review process cannot introduce additional facts. c) The review process cannot change the rules. In other words, one must play fair.

Q3. What are the four ways of seeking truth? A: Philosophical reasoning, deductive reasoning, inductive reasoning, and revelation.

C. Four ways to look for truth
1. That which is self-evident (e.g., philosophy, politics)
2. That which results from deductive reasoning (e.g., mathematics, formal logic)
3. That which is revealed supernaturally (e.g., theology, morality)
4. That which results from inductive reasoning (e.g., science, scholarly research)

D. The nature of philosophy

Q4. What is self-evident truth? A: An idea that seems to be correct to an individual.

1. On what is philosophy based? a) Philosophy is the use of the human mind to attempt to understand why entities exist and how events involving entities occur. b) The basic assumption of philosophy is that some things are so obvious (e.g., self-evident) that they can be used as the

underpinnings (e.g., first principles, fundamental assumptions) of all human reasoning. In science and theology basic truth is not obvious. c) It was for this reason, the need to have ground on which to stand, that René Descartes made his famous statement, "I think; therefore, I am." d) Philosophy claims that the conscious mind is capable of determining the first principles that are necessary to philosophize and of applying the rules of logic to discover truth. Science and theology deny this.

2. The problem of self-evidence. It is a weak standard. a) What is self-evident to one person might not be self-evident to another. For example, Thomas Jefferson's statement that "all men are created equal" in the Declaration of Independence might very well be responded to by the question, "Equal in what way?" The meaning of "equality" has been and continues to be grist for the political mill. Equal ≠ identical. b) Some things that are self-evident are probably false. OOPS! For example, it was self-evident to Aristotle that heavier objects fall faster than lighter objects, but Galileo proved this is not true. c) What is "self-evident" may be strongly influenced by people's culture, that is, people's sense of truth may be set very early in life before they reach the "age of reason." This creates an inherent bias which is why it is necessary to "train up a child."

Q5. Why are the truth-determining mechanisms of philosophy weak? A: What constitutes standards and evidence is not universally accepted.

3. The truth-determining mechanisms of philosophy are weak. a) To move forward in establishing truth in a system of reasoning, the fundamental items which are going to be considered (i.e., facts) must be agreed upon by everyone. Because the same things are not self-evident to everyone, disagreements over what propositions can be generally accepted as true are common, preventing progress in philosophizing. b) To address this issue, definitions are loosened to get agreement so the rules can be applied. This, however, effectively makes the rules dependent on how the facts are defined. Both facts and rules are diluted to get an acceptable conclusion. This is not acceptable in science and theology. c) The resolution process normally involves experts who were not part of the rule-application process. But since both the facts and the rules cannot be independently established, any resolution is arbitrary. Total non-agreement. d) The numerous schools of ancient philosophers, all seeing the same world but reaching greatly different conclusions, illustrate the weakness of philosophy. There were five ancient Greek schools (Platonism, Aristotelianism, Stoicism, Epicureanism, and Skepticism), and there are four modern schools (Idealism, Realism (Modernity), Postmodernism, and Pragmatism)

4. The psychological issues. a) Philosophers believe the conscious brain makes humans superior to other species and has an almost limitless capacity to reason and learn. b) In reality, the conscious mind is slow and tires quickly. It requires significant training in discipline to keep the subconscious mind under control. Moreover, because of its slowness, it must hand over important tasks to the subconscious. We cannot trust ourselves. c) The subconscious mind does parallel processing of all the sensory inputs. To accomplish this, it must create and master numerous scripted responses. This makes the subconscious highly biased to scenarios that it can understand. While it can be trained by the conscious mind to some extent, most of its learning comes from experience. d) The subconscious mind thinks so much faster than the conscious mind that most ideas that a person has are actually produced by the subconscious mind at least 0.3 seconds before the conscious mind realizes that a decision is being made. The conscious mind is forced to

override these "automatic" decisions, which is like herding cats. The problem in maintaining a regimen of diet and exercise. e) Long-term memory is notoriously unreliable because some of its memory frames are corrupted by placeholders which were never actually observed when events occurred and because it is self-editing to improve personal self-image. This produces phony "facts."

5. Summary of philosophy. a) The operative phrase of philosophy is "It seems reasonable to me that…." Because philosophy is "I-centered," it gives people a sense of freedom and of being masters of their own fate when they feel they have determined truth through philosophizing. Rationalizing deceives us as to the quality of our decisions. b) When faced with challenges in one of the other methods of seeking truth, people are always tempted to philosophize to gain control of the situation and to appear to be brilliant problem-solvers. c) St. Paul wrote, "See to it that no one takes you captive through philosophy and empty deceit, which are in accord with human tradition, namely, the basic principles of the world, but not in accord with Christ." Colossians 2:8. This is a stern warning against basing any decision of significance on philosophy. It may be inconsistent with either/or both science and theology.

E. The nature of deductive reasoning

Q6. On what is deductive reasoning based? A: Clear and unambiguous definition of a domain.

1. What is the basis of deductive reasoning? a) Creating a domain in which deductive reasoning will be done is a human activity (i.e., "our world"). For example, the domain of integers is the result of human definition. It is said that such a domain is human-owned. b) For deductive reasoning to be applicable within a particular domain, all aspects of the domain must be created using universally accepted definitions. There must be universal agreement. For example, "For every integer there is another integer that has a value that is one unit greater." c) Any "facts" or rules that are not universally accepted cannot be used in the reasoning within the domain. For example, "The square root of any number is one half of that number." d) Domains therefore are totally controlled by those who define them, not arbitrary as in philosophy. Anyone who does not accept the domain definitions cannot work within that domain. e) Multiple domains, such as card games, can be defined using the same elements (e.g., the cards).

2. The truth-determining mechanisms of deductive reasoning. a) The elements (facts) are unambiguously defined. Therefore, everyone studying a domain will be starting with the same information. b) Rules are clear and independent of facts. For example, the sum of two numbers is rigorously defined, and the use of the operation of summing does not change the addends in producing the sum. c) No matter who checks the work done in deductive reasoning, the resolution processes always yield the same result. They work infallibly. There is no wiggle room because the system is completely understood. d) Everything in a domain always works the same no matter where it is employed or the type of government that rules the country. e) The operative statement of deductive reasoning is "Based on the definitions of the domain, it follows that...." This is not so in science and theology.

F. Mathematics as an example of deductive reasoning

Q7. Why is mathematics inductive reasoning and not philosophy? A: It has universally accepted

definitions and fixed rules.

1. What is mathematics? a) While nature was the inspiration for mathematics, mathematics really has nothing directly to do with nature. It is a human-devised system which is defined independent of anything in nature. Abstract, while science and theology are concrete. b) Mathematics consists of a series of symbols to which relative values are assigned. For example, "1" is assigned as a basic unit. "2" is defined as the next symbol in the progression after "1." "3" is defined as the next symbol after "2," etc. The distance between adjacent symbols in this progression is then defined as "1" unit. These are called the "counting numbers" or the "positive integers." These are facts in the domain. c) It is clear how the counting numbers can be matched to the elements of some material objects to allow a unique symbol to be assigned to the amount present (e.g., 24 apples). d) Operators such as ("+", "-", "·", and "/") permit the creation of rules that allow the values of two symbols in a domain to be combined in such a manner that they can be represented by another symbol in the domain. These are rules in the domain. e) Many mathematical domains can be created using different symbols and operations with different functions. There is a flexibility in how domains are defined. As long as they are properly defined, the result of an operator on the elements of the domain will give a unique answer that is also within that domain.

2. Characteristics of mathematical domains. a) All elements of a mathematical domain are unambiguously defined and universally accepted. If two elements have the same value, they are defined as equivalent. b) Rules are also universally defined based on the operators that exist in the domain. Operators always yield the same value within the system for the same inputs. They work infallibly provided human error is not involved. Results are reliable. c) If two processes of applying operators yield the same result on the same set of inputs, then the processes are equivalent and can be used interchangeably (e.g., commutativity). d) Two domains in which the elements and the rules correspond exactly to each other are called "isomorphic," and the corresponding sequence of operations must produce isomorphic results (e.g., flipping a coin and drawing straws).

3. Types of mathematics. a) Algebraic domains involve numbers, operators, and symbols to represent general terms to which a value cannot yet be assigned (e.g., $y = x + 4$). b) Geometric domains involve figures such as triangles and spheres which exist and which are defined within a certain realm, such as a plane or 3D. The properties of geometric figures remain proportional regardless of the size of the figure. c) Topological domains involve the properties of surfaces which exist in spaces that have more than two dimensions (i.e., a coffee cup, a Klein bottle). d) A domain of sets involves members which are composed of other members (and sometimes themselves) and which can be taken apart and joined together by set operators (i.e., Concat({K, 57, cherry},{dog, 26}) = {K, 57, cherry, dog, 26}).

Q8. What is syllogistic logic? A: Two statements, one containing a subject and a middle term and the other containing a middle term and object, which can be combined to form a third term relating the subject and the object.

G. Logic as an example of deductive reasoning

1. Aristotle. Syllogistic logic combines a major premise and a minor premise to reach a conclusion (e.g., All living dogs have heads. Buffy is a living dog. ∴ Buffy has a head.)

2. Truth tables are used to determine if all possible combinations of true and false values for the elements produce the same pattern for both sides of an equation (e.g., Does $A \wedge \neg B = \neg A \vee B$?), but they are tedious to use.

3. Predicate calculus transforms real problems into logical expressions using mathematical symbols and logical operators. It is complex and feared by most people. The symbolic representation of the problem is independent of the emotional baggage that is often associated with real problems, and the solution of the symbolic problem can be translated back into the solution of the real problem. It can be used in well-defined domains also in science and theology.

H. Conclusions

1. Philosophical reasoning is always suspect and seldom conclusive. It is completely dependent on the people doing the reasoning and the assumptions that they make.

2. Deductive reasoning is always reliable where it can be applied (i.e., well-defined domains). The assumptions are universally accepted, and the operators always work in the same manner.

3. While deductive reasoning can be used in science and theology, it can contribute no new information that was not already present in the evidence of science or the revelation of religion.

4. Neither philosophy nor deductive reasoning can probe the hidden things of God.

In theology, reason is only a handmaiden, never the queen.

II. The Nature of Christianity

@. Review (Compare these approaches to science.)
1. Philosophical reasoning is always suspect and seldom conclusive.
2. Deductive reasoning is always reliable where it can be applied.
3. No form of human reasoning can probe the hidden things of God.

A. What is theology?

Q1. On what is theology based? A: Revelation.

1. Theology has a "divine" basis. a) For theology to be different from philosophy, it must be based on a different source of truth. It cannot rely on self-evident truth, but it must rely on truth revealed by God. There is a need for the certainty of written truth because memory is self-editing. b) If the revelation of God is based on a written document which was given to one or more chosen people by God or directly presented by God in written form, then theology has a firm base of definition as exists in deductive reasoning. c) If the "revelation" of God is based on oral information passed down from one generation of priests, rabbis, teachers, etc. to the next, then it is uncertain whether what is now taught is what God revealed or whether the transmitters of the revelation introduced errors. This revelation is always uncertain. d) If priests, rabbis, teachers, etc. claim to be

continuing to get revelation from God (i.e., progressive revelation), then the standard of faith is forever uncertain because it can change at any time.

2. The Christian's source of revelation. a) All spiritual truth is based only on the revelation of God which has been given in the Old and New Testaments of the Bible, namely on "Thus says the LORD…." b) "All Scripture is God breathed and is useful for teaching, for rebuking, for correcting, and for training in righteousness, so that the man of God may be complete, well equipped for every good work." 2 Timothy 3:16–17

3. Everything the Scriptures say is true. a) Facts are based on divine revelation and are therefore reliable. b) "So Jesus said to the Jews who had believed him, 'If you remain in my word, you are really my disciples. You will also know the truth, and the truth will set you free.' " John 8:31 c) The revelation is true, but not our reason. "To the law and to the testimony! If people do not speak according to this word, there will be no dawn for them." Isaiah 8:20

   Q2. What is the proper means of understanding Scripture? A: Ministerial reasoning that allows Scripture to interpret Scripture.

4. Scripture is understood through the rules of hermeneutics (i.e., systematically). a) The primary rule is that the text is literal except when context indicates otherwise. b) "Your words are a lamp for my feet and a light for my path." Psalm 119:105

5. The resolution process is "Scripture interprets Scripture." (Ultimate source) a) In the resolution process, human reason cannot be used in a manner so as to add anything to or delete anything from what has been written. This is a real problem. b) "We also speak about these things, not in words taught by human wisdom, but in words taught by the Spirit, combining spiritual truths with spiritual words." 1 Corinthians 2:13

6. Deviations from this standard. a) Roman Catholics deviate from this standard by claiming that not all the truth was written down by the apostles but that some was given to the bishops of the church and has been revealed in the writings of the fathers and that this must be reconciled with the Scriptures by the teaching office of the church. People who do not like being confined by the Bible will add to it. b) Some Protestant churches believe that human reasoning must be the resolution process which the church uses to understand the Scriptures. c) Some Protestant churches believe that God is continuing to reveal His will for man by moving the hearts of people in every generation to understand the Scriptures as they are to be applied in the social environment of that generation.

B. The nature of God - Omnipresent

   Q3. What is the nature of God's omnipresence? A: He is always completely present everywhere.

1. God fills the whole universe. a) The LORD filling the universe is not a matter of His size. Space is a creation of the LORD, who is a spirit, so there is no common system of measurements between God and the universe that can be applied to both. b) David wrote, "Where can I go from your Spirit? Where can I flee from your Presence? If I go up to heaven, you are there. If I make my bed in hell—there you are! I rise on the wings of dawn. I settle on the far side of the sea. Even

there your hand guides me, and your right hand holds on to me. And if I say, 'Surely the darkness will hide me and the light will become night around me,' then even the darkness will not be too dark for you. The night will be as light as the day. Darkness and light are the same to you." Psalm 139:7–12

2. God is completely present at each point. a) Physical objects can only be present at one place at a particular time. God does not have this limitation. It is as if He maps Himself to every point in the universe so that He is completely there, not just a part of Him being there. (This is an example from science, not an argument from science.) b) "The eyes of the LORD are everywhere, watching evil people as well as the good." Proverbs 15:3

3. God exists independently of the universe. He is independent of time and space, effectively outside it. a) In physics the speed of light is independent of the frame of reference in which it is measured. In the same way the gestalt of God is the same no matter from where we attempt to interact with Him. b) "'Can anyone hide in secret places so that I cannot see him?' declares the LORD. 'Do I not fill heaven and earth?' declares the LORD." Jeremiah 23:24

4. God fills the heavenly realms. He is everywhere the action is. a) The LORD not only fills the physical universe, as difficult as that is to understand, but he also fills the realms of heaven which we have no ability to explore or understand. He therefore knows how to provide for His elect both here and in the realms beyond here. b) "Therefore know this today and again take it to heart that the LORD is God in the heavens above and on the earth below. There is no other." Deuteronomy 4:39

C. The nature of God - Invariant

Q4. What does God being invariant mean? A: He cannot change His being or will.

1. God has always existed and will always exist. a) God is the only absolute that there is. All else had a beginning and will change at some time during its existence, but not God. In a world where every aspect of nature has the ability to change, even the climate, the LORD is, and He cannot be otherwise. b) Moses said, "Before the mountains were born, before you gave birth to the earth and the world, from eternity to eternity you are God." Psalm 90:2 God has always existed.

2. God is not a creature of time. a) Time is an entity. It flows in one direction, like a stream, but its flow is not uniform. Time is hard to understand. Under some conditions it flows faster than under others. Special relativity. Nevertheless, time had a beginning so that for some point there was nothing before it, and time can end so that there will be some point after which there is nothing. The LORD exists even where time does not flow. b) "So God replied to Moses, 'I AM WHO I AM.' He also said, 'You will say this to the Israelites: I AM has sent me to you.' " Exodus 3:14 c) "Certainly I, the LORD, do not change. That is why you, sons of Jacob, have not come to an end." Malachi 3:6

3. God cannot change. He is at every point of time at once. a) The certainty of the Christian faith is that God cannot change. What He promises today is fulfilled in our future but in God's "eternal now." His speaking and His acting are the same. b) At God's command, Balaam said, "God is not a man, that he should lie, nor a son of man, that he changes his mind. Does he say something, and

then not carry it out? Does he speak, and then not bring it about?" Numbers 23:19 c) "But do not forget this one thing, dear friends: For the Lord, one day is like a thousand years, and a thousand years are like one day." 2 Peter 3:8

4. God knows even those things that might occur. He knows how we would behave even in circumstances we will never encounter. a) God's knowledge of what will happen in time is so great that He even knows what would happen if He allowed the circumstances in the world to be different. He can protect us by not leading us to where we would fall into sin. b) "LORD, you have investigated me, and you know. You know when I sit down and when I get up. You understand my thoughts from far off. You keep track of when I travel and when I stay, and you are familiar with all my ways. Before there is a word on my tongue, you, LORD, already know it completely." Psalm 139:1–4

D. The nature of God - Omniscient

Q5. How can God know what will happen in the future? A: He is already present in the future. He is not a creature of time.

1. God knows everything in the universe. He has complete control because He has complete knowledge. a) God's knowledge is synonymous with His existence. Because He is everywhere and everywhen, He is aware of everything. b) "There is no creature hidden from him, but everything is uncovered and exposed to the eyes of him to whom we will give an account." Hebrews 4:13 c) Joseph said, "You meant evil against me, but God meant it for good, to bring this to pass and to keep many people alive, as it is this day." Genesis 50:20

2. God authorizes and sustains all activities that occur. He knows the details of everything. a) God's sustaining presence is literally why everything in the universe exists and functions. b) "He counts the number of the stars. He calls them all by name. Great is our Lord and mighty in power. To his understanding there is no limit." Psalm 147:4-5 c) Jesus said, "Even the hairs of your head are all numbered." Matthew 10:30

E. The nature of God – Omnipotent

Q6. To what can God's omnipotence be compared? A: Nothing. It exceeds everything that we can imagine.

1. God has all the power. Other things have only the power God delegates to them. a) The LORD is not just more powerful than anything else; He has all the power that exists, and He delegates power to other things so that they can act. b) "For the LORD of Armies has made plans, and who can stop him? His hand is stretched out, and who can turn it back?" Isaiah 14:27 c) "Jesus approached and spoke to them saying, 'All authority in heaven and on earth has been given to me.' " Matthew 28:18

Q7. Why can't God make a stone so heavy that He can't lift it? A: It is not His will to perform parlor tricks for sinful mankind.

2. God is capable of doing anything consistent with His will. He acts without any constraints on Him. a) Whatever the LORD wills, He has the power to make it happen. b) The angel Gabriel said, "For nothing will be impossible for God." Luke 1:37 c) "The LORD does whatever he pleases in the heavens and on the earth, in the seas and in all the depths." Psalm 135:6

3. Nothing exists, acts, or moves without God's permission. God sustains everything at all times. a) Nothing inanimate, regardless of size, acts without God's command; nothing animate, no matter how powerful and clever, acts without God's permission. b) "If the LORD does not build the house, it is useless for the builders to work hard over it. If the LORD does not watch over the city, it is useless for the watchman to stand guard." Psalm 127:1

4. The laws of nature function only as God wills. Albert Einstein said, "Either nothing is a miracle, or everything is a miracle." a) Nature appears to have laws only because the LORD normally chooses to act in a manner that is predictable to human minds. He is not bound by such laws. b) David wrote, "The eyes of all look eagerly to you, and you give them their food at the proper time. He opens his hand, and he satisfies the desire of every living thing." Psalm 145:15-16 c) "You will take a lot of seed out to the field, but you will harvest little, because locusts will finish it off. You will plant and tend vineyards, but you will not drink the wine and store it, because worms will eat them up. You will have olive trees covering your whole property, but you will not anoint yourselves with oil, because your olives will fall off the trees." Deuteronomy 28:38-40

F. How God works

Q8. In what two ways, from a human perspective, does God work? A: 1) Through the laws of nature. 2) Through miracles.

1. God works through miracles (non-natural hand). a) The LORD works through miracles when He chooses to exercise His power without any effort to hide it under ways the things of this world are regularly seen to behave, that is, He acts "immediate." b) The plagues in Egypt. Exodus 7:19-12:32 / The parting of the Sea of Reeds. Exodus 14:21-28 / The crossing of the Jordan on dry land when it was at flood stage. Joshua 3 / The sun standing still. Joshua 10:12-13 / An entire army struck with blindness. 2 Kings 6:18 / The slaughter of the Assyrian army before Jerusalem. 2 Kings 19:35 c) The announcement of the birth of John the Baptist. Luke 1:5-25, 1:57-66 / The virgin birth. Luke 1:26-38 / The calming of the lake. Matthew 8:23-27; 14:25-32 / The feeding of large crowds. Matthew 14:19-21; 15:35-38 / The raising of the dead. Luke 7:11-15; Mark 5:35-43; John 11:1- 44 / The deliverance of Peter. Acts 12:7-17

2. God works under the guise of the laws of nature (natural hand). a) The LORD most often works through and under the shadow of the laws of nature so that people reap the benefits of His action without seeing His fingerprints on His work. b) The Lord told Adam that the ground would produce thorns and thistles. Genesis 3:18 / The LORD directed David's stone that killed Goliath. 1 Samuel 17:49 / The Lord put a spirit in Sennacherib's mind so he returned to his own country. Isaiah 37:7 c) God's sun shines and His rain falls on the righteous and the unrighteous. Matthew 5:45 / The end of the world will be signaled by great signs in heaven and on earth. Luke 21:11 / A terrible storm swept down on Paul's ship. Acts 27:18

3. God created the world in six days by miraculous means. He can still create through miracles if He so chooses. a) Again and again in Genesis 1, God spoke and at His word things came into being and functioned properly. Everything was perfectly made for the purpose He created it. b) "For in six days the LORD made the heavens and the earth, the sea, and everything that is in them, but he rested on the seventh day." Exodus 20:11 c) "Lift up your eyes to the heavens and see who created these things. See who brings out their army in great number and calls them all by name. Because of his great strength and mighty power, not one of them is missing." Isaiah 40:26 d) "This is what the true God says, the LORD who creates the heavens and stretches them out, who spreads out the earth and everything that it produces, who gives breath to the people on it and life to those who walk on it." Isaiah 42:5 e) "For in him all things were created, in heaven and on earth, things seen and unseen, whether thrones or dominions or rulers or authorities; all things have been created through him and for him." Colossians 1:16

4. God preserves the world He created. He preserves through miracles. a) The creation of God is continuous in that He preserves His creation in the same way in which He brought it about, namely, through the power of his word. b) "The Son is the radiance of God's glory and the exact imprint of the divine nature. He sustains all things by his powerful word." Hebrews 1:3 c) The LORD said, "While the earth remains, seedtime and harvest, cold and heat, summer and winter, and day and night shall not cease." Genesis 8:22 d) Paul said, "He himself gives all people life and breath and everything they have." Acts 17:25

5. We are limited in what we know by God's revelation. We cannot explain many of God's actions. a) Because God is not a part of the physical world, our senses and measuring instruments cannot learn anything about Him. We must rely solely on His revelation. b) "Who has directed the Spirit of the LORD? Who can teach him anything or serve as his advisor? Who was his advisor to give him insight? Who taught him the path of justice? Who taught him knowledge? Who showed him the way to complete understanding?" Isaiah 40:13–14 c) " 'Certainly my plans are not your plans, and your ways are not my ways,' declares the LORD. 'Just as the heavens are higher than the earth, so my ways are higher than your ways, and my plans are higher than your plans.' " Isaiah 55:8–9 d) "What no eye has seen and no ear has heard and no human mind has conceived—that is what God has prepared for those who love him." 1 Corinthians 2:9

Theology is absolutely certain only if you believe the correct one.

III. The Nature of Science

Philosophy and deductive reasoning are human controlled. Scientific evidence and revelation are controlled by God.

@. Review
1. Philosophical reasoning is always suspect and seldom conclusive. Magisterial use of reason.
2. Deductive reasoning is always reliable where it can be applied. Ministerial use of reason.
3. Theology is absolutely certain only if you believe the correct one.

A. The history of science

Q1. How does science relate to philosophy? A: Science arose from philosophy and was

originally called "natural philosophy.'

1. Natural philosophy. a) Greek philosophers, such as Plato and Aristotle, glorified the power of the human mind and tried to develop self-consistent systems to understand the ideas, the objects, and the activities that they observed in the world. I think; therefore, I know. b) As all philosophers, they believed in self-evident truth. Certainly, through thought, they reasoned, they could understand the universe. c) They came to believe in the "one-truth" thesis. This continues to be believed by some. According to this thesis, all truth was interconnected. No matter where one started, one could eventually learn all truth by finding and following the interconnected pathways. This is fantasy! d) Reasoning about the objects and rules of nature was called "natural philosophy" and, like all philosophy, it was undertaken completely through mental activity.

   Q2. What is astrology? A: The belief that the positions of the heavenly bodies influence human events.

2. Astrology. a) Nothing impressed the ancients more than astronomy. They looked at the huge expanse of the sky and wondered about the objects they saw there. They were particularly interested in how the sky rotated and why some objects moved relative to the rest of the sky. They placed stars that were near each other into constellations and identified the "moving stars" which they called "planets." They thought the things in the sky were too big to be irrelevant; they must mean something. b) They believed that what they saw in the sky had a purpose. Being superstitious, many of them believed that the relative movement of the planets and the stars at critical times, such as when a person was born or married, affected various aspects of their lives. This fantasy, called "astrology," still has many adherents today.

   Q3. What is alchemy? A: The effort to turn base metals into valuable metals and similar quasi-magic.

3. Alchemy. a) The stars were beyond man's control, but people gradually learned that they could extract metals from rocks, combine them with other metals to create alloys, and make utensils and weapons of war from these metals directly or from their alloys. b) They also learned that certain plants had medicinal benefits, and those benefits could be enhanced by extracting the active ingredients and concentrating them. They sought to master nature. c) It seemed to some that it was merely a matter of trial and error or of magic to find ways of changing something of low value (e.g., ore) into something of higher value (e.g., pure metal). Alchemists therefore began seeking ways of creating precious materials (e.g., gold) out of cheap metals (i.e., lead). "Patent medicines" are an example of modern alchemy.

4. Experimental science. a) A few Greeks did try to determine information about nature through experimentation, but these were mostly mathematicians rather than philosophers. They thought experimentation was unnecessary. For example, in 240 BC, Eratosthenes used shadows to determine the circumference of the Earth to within 2% of its actual value. b) In 246 BC, Archimedes discovered how to measure the relative density of objects. c) The engineering and construction of military weapons involved studying bow-strength and ballistic trajectory. ("The spur of war.") This occurred over many centuries, often without people understanding the science behind them. d) The modern era of experimental science is generally dated to Galileo Galilei about the beginning of the 17th century. He conducted experiments in a systematic manner and

accurately recorded his results. The Roman church resisted his investigations. e) The ability to understand the information gathered by scientific observations was quite limited before Isaac Newton. Newton and Gottlieb Leibnitz developed the calculus and used it to show that the whole universe operated on the same set of laws, not on separate sets of celestial and terrestrial laws.

B. What is science?

Q4. How is science similar to theology? A: It has 1) fundamental assumptions, 2) systematic study by well-established rules, 3) evidence provided by God.

1. Science has a "divine" basis. Scientists cannot define the natural world. a) Science differs from deductive reasoning because the natural realm in which science works is completely defined independently of the investigators. The universe is as it is, and scientists can only measure its components and attempt to learn the rules that relate them. They can define neither the components nor the rules. There is no rulebook. b) Science differs from theology because while both nature and the Bible represent revelations from God, the Bible explains how its revelation is to be understood, but nature comes with no divine manual. Scientists must attempt to establish its operations manual through their investigations. c) Science differs from philosophy because its source of truth is different. Something that seems self-evident to the philosopher (e.g., that heavy objects fall faster than lighter objects), can be seen to be totally false when scientific experimentation is performed. Evidence trumps thinking. d) Science is based on inductive reasoning. It goes from specific examples to the general case. Evidence is systematically collected and documented, and that evidence, which is always only a minuscule amount of the possible evidence available, is used to develop theories to explain how all the other pieces of evidence that were not collected will behave.

2. Developing the framework. a) Because in science the goal is to learn the rules (i.e., laws) of the system that the investigator is studying, the investigator must make some fundamental assumptions upon which all his or her work will depend. Need assumptions to establish the ground rules and limit the domain. b) Important The fundamental assumption undergirding all the physical and biological sciences is that all observed phenomena can be understood in terms of the inherent properties of matter, energy, space, and time. To play the science game, one must accept this assumption, at least as a working hypothesis. c) The fundamental assumption, and any assumptions subsequently made, might be false (i.e., false premise fallacy). Assumptions are always risky. In fact, it is not uncommon for scientific assumptions to be wrong because scientists cannot see the whole picture of nature.

The fundamental assumption of Christian theology is that the Bible is the inerrant, verbally inspired Word of God.

Q5. What are the requirements for evidence to be scientifically valid? A: It must be collected under pre-established conditions and its collection thoroughly documented.

3. Facts are the things observed. a) Science is based on evidence that is obtained by making controlled observations of nature. (Philosophy is based on self-evident truth, theology on the Bible, and deductive reasoning on careful definitions.) These observations must meet pre-established standards for quality and be documented so that they can be reproduced and/or

compared. b) The evidence collected must be appropriately sampled to be representative of the population of being studied to prevent experimenter bias. There can be no "cherry-picking" to bias the results in a particular direction. c) The amount of evidence much be large enough so that the results are statistically significant, otherwise there may be a hasty generalization. d) A science is regarded as "hard" if it is experimental and if the variable of interest can be isolated from all other variables (e.g., elemental analysis). Experiments can be precisely duplicated by other scientists. e) A science is regarded as "soft" if it is experimental and if, although the variable of interest cannot be isolated, the other variables can at least to some extent be controlled (e.g., drug studies). Similar, but not identical, experiments can be performed by other scientists. Studies must be "double blinded" to produce unbiased results. f) A science is regarded as "observational" if investigators cannot perform experiments but must rely on what they discover (e.g., archeology). Those not present when a discovery is made might only have the documentation of the discovery by which to judge its merit. Scientists need to avoid anecdotal information.

Q6. What is the falsification process? A: Placing one's models and evidence before the scientific community for evaluation.

4. The resolution process is called "falsification." a) The evidence, or the documentation of the collection of the evidence, is reviewed by other experts in the field. b) The validity of the sampling process is reviewed to determine if the sample is representative of the population being studied. c) Any statistical evaluation of the evidence is reviewed for appropriateness. It has been said that there are lies, damned lies, and statistics. d) Efforts are made to duplicate the experimental conditions to determine if the results can be reproduced. e) The theory or explanation proposed to describe the results is tested on other members of the population which were not part of the sample used for developing the theory. The latter two points are critical.

5. The reliability of scientific truth. a) A scientific theory, model, or law is regarded as scientifically true if one can say that it is "consistent with all the available evidence." b) All scientific truth is only "provisional" because new evidence could undermine the reliability of the theory, model, or law. Scientific models are fragile because one discordant piece of evidence can fracture them.

C The scientific method in theory

Q7. Explain the scientific method. A: 1) Make observations, 2) develop a model, 3) test the model on available data, publish the model to the scientific community, 5) refine the model and repeat the process.

1. Observe a phenomenon, i.e., gather evidence. a) When something natural is observed, document the observation for later comparison with other instances that might be related. b) Establish experiments to produce other instances, if possible. c) Search the natural environment or the literature to find other related observations.

2. Create a model (an explanation, a theory) to explain observations. a) Attempt to create a logical explanation based on the evidence available. b) If possible, develop a mathematical model which explains the relationship among the pieces of evidence.

3. Test the model under more conditions. Validate the explanation. a) Use the model to predict other cases of the phenomenon of interest that have not yet been observed. b) Seek to find additional cases to test the predictiveness of the model either through experimentation, search of the physical world, or search of the literature.

4. Refine (improve) or reject the model. a) If the model seems to be basically correct, refine the model based on the new information and return to step three to repeat the process until no more refinements are needed. b) If the model fails to accurately explain new cases, return to step one or step two as necessary and repeat the process. c) If the model becomes hopelessly inadequate, reject it and change careers.

D. How science really works

1. A scientist develops and tests a model. This may require many passes through all or part of the steps of the scientific method to create an acceptable model. This is the "lab work."

2. The model is presented to the scientific world. This is the point at which the falsification process begins. Scientists are kept honest by this step because they each would like to find something wrong with the model to show that they are better scientists than the one who proposed the model. Science is a competitive environment.

3. The model is carefully scrutinized by the experts as described above, looking for obvious errors, such as inadequate evidence, faulty analysis, flawed logic, or experimenter bias. There are many potential sources of error.

4. The model is tested by other scientists under other conditions. When possible, scientists set up their own experimental equipment and test the model to see how it performs in their labs.

5. The model becomes a "strong" model or is rejected. If the model survives the initial onslaught of examination, it is then provisionally accepted as a possibly correct explanation of the phenomenon. The case for the model grows stronger or weakens. Over time as others use it, its credibility can grow. If shortcomings are found or limitations of the model are revealed, it fades from the scientific scene.

E. Implications of the primary assumption of science (These are important.)

Q8. What are the two corollaries of the fundamental assumption of science? A: 1) No divine being exists that can interfere with the operation of the laws of nature. 2) The universe must have evolved because there is no other alternative.

1. All natural phenomena have natural explanations. a) Simply because something cannot not be explained now does not mean there is no natural explanation. It may not yet be known. b) If there is no definitive experiment between two explanations, then either or neither, but not both, of them may be correct. (The Almighty God may be the only valid explanation to some observations, but there is no way to be sure of it.)

2. There are no supernatural beings. (Corollary 1). a) If there is a supernatural being who can affect objects and/or processes in the physical world, then the fundamental assumption of science is wrong, and God's fingers are in the pie. b) If the fundamental assumption is false, then it is impossible to determine whether observations are the result of natural or supernational events, and scientific "truth" is meaningless.

3. The universe evolved through natural means. (Corollary 2). a) If only natural means are available, then there is no other explanation for the existence of the universe than that it evolved. This is proof by logical reason, not experimentation. b) The current explanation of the manner in which the universe evolved may be somewhat or completely wrong because "more evidence is yet to be taken." Science is a continual searching.

4. Natural explanations do not have to make sense to human reason. Science and theology do not need to be rational. a) As with God's revelation in the Bible, God's revelation in the physical world does not need to make sense to human reason. b) Scientific explanations merely have to be consistent with all physical observations, not with human logic or emotions. No one has a feel for quantum physics.

Q9. List several reasons why scientific theories might be false. A: 1) Bad assumptions. 2) Hasty generalization on too little evidence. 3) Affirming the consequent.

F. Limitations of science – Summary
1. If a divine being exists, all scientific models are unreliable. – UW biostatistics professor George Box said that all theories are flawed, but some of them are useful.
2. Scientific models can only be accepted provisionally and cannot be generally validated.
3. A rational explanation, even if viable, does not mean a valid explanation.*
4. An irrational explanation, even if repugnant, does not mean an invalid explanation.*
5. Measurements are useless if they change what is being measured.

* These statements are also applicable to theology.

Scientific models are always hostage to the next observation, i.e., fragile.

IV. Sorting Truth from "Truth" from Fiction

@. Review
1. Philosophical reason is always suspect and seldom conclusive.
2. Deductive reasoning is always reliable where it can be applied.
3. Theology is absolutely certain only if you believe the correct one.
4. Scientific models (inductive reasoning) are always hostage to the next observation.

A. What is the origin of the universe?

1. Based on the Bible. a) The Bible tells us that the LORD created the universe out of nothing (*ex nihilo = out of totally nothing*) through His word. There was no "before" the beginning because everything started with the creation. Neither did the space which the universe occupies exist before the beginning. Time, space, energy, and matter were all created by God. b) "In the beginning, God created the heavens and the earth. The earth was undeveloped and empty.

Darkness covered the surface of the deep, and the Spirit of God (Holy Spirit) was hovering over the surface of the waters." Genesis 1:1-2 c) God said in front of a million witnesses, "For in six days the LORD made the heavens and the earth, the sea, and everything that is in them, but he rested on the seventh day." Exodus 20:11 d) Moses said, "Before the mountains were born, before you gave birth to the earth and the world, from eternity to eternity you are God." Psalm 90:2

Q1. How do scientists explain the origin of the universe? A: The Big Bang theory.

2. Based on science. a) The fundamental assumption of science leaves no room for supernatural beings or forces to play any role in the origin or operation of the universe. Therefore, the universe had to have evolved because there was no other agency through which it could have come into being. Note that some scientists believe in a creator God and only use the fundamental assumption of science as a working hypothesis. b) Science is governed by evidence in the same way that Christianity is governed by the Bible. "Follow the evidence!" Scientists draw their conclusions based on the available evidence and change them if new evidence is found. c) The current model that best fits the evidence is that the universe exploded into existence apparently from a point mass, with space, time, energy, and matter rapidly spreading out in all directions. Ever since then the universe has been cooling. This is called the "Big Bang" theory. Some would say this involves impossible physics, but it fits the evidence best.

The above are solid approaches to science; below is fantasy.

3. Based on theistic evolution. God worked strictly through the laws of nature; Genesis 1 & 2 are myths. a) Proponents of theistic evolution agree with the available scientific evidence that the universe started with a "big bang." b) They argue that Genesis 1:1-2 is figurative language for this explosion which God directed for his purposes after some point.

4. Based on creation science, which is an oxymoron. (Arguments are similar to those for the Millennium.) a) Proponents of creation science believe that Genesis 1:1-2 is a literal explanation of God's creation of the universe. b) Some place this creative event farther in the past than is generally held by classic creationists. There are "new Earth" versus "old Earth" creationists.

5. Based on intelligent design. a) Proponents of intelligent design do not insist on a literal or a figurative understanding of Genesis 1:1-2. b) Their emphasis is that God was guiding whatever happened for his purpose. He worked behind the scenes.

B. Age of the universe

1. Based on the Bible. a) The Bible does not give an exact age of the universe. In Genesis 1 it is clear that the Bible is indicating that created things have an apparent age much older than the actual time that has elapsed since their creation. There is a generally accepted actual age by biblical scholars of 6,000 to 8,000 years ago. b) The estimate of the age is based on the genealogies which appear in places such as Genesis 5, Genesis 11:10–26, Matthew 1:1–17, and Luke 3:23–38, and in numerous other verses. These genealogies are often incomplete, with names omitted. The ages of people involved when they became parents are the basis of the estimate.

Q2. What is the primary technique used by scientists to determine the age of the earth? A: Dating

by radioactive decay – based on 1st order kinetics.

2. Based on science. a) Scientists base their estimate of the Earth's age on several factors, but most heavily on the radioactive decay of atomic nuclei. The rate at which each type of nucleus decays can be determined extremely accurately. Decay half-lives serve as the ruler for measuring time in the past. Radiation is rooted in what have historically been called the weak and strong nuclear forces. b) The best current estimate of the age of the earth is 4.6 billion years and of the universe, 14+ billion years. These ages, however, must be regarded as "apparent." They are consistent with best measuring practices, but there is no way to be sure that God did not simply create the universe with the appearance of age. c) A younger age is ruled out because radioisotopes consistent with such an age are not found on Earth, but all the rest of the stable and radioactive isotopes are. This establishes an "isotopic" age of the earth.

3. Based on theistic evolution. a) Proponents of theistic evolution accept the scientific arguments without qualification. They are often more interested in this life than eternity. b) They believe that an old age of the universe is necessary to account for God's developing life through natural processes.

4. Based on creation science. a) Proponents of creation science generally agree with the 6,000-to-8,000-year estimate, although there are some "old Earth" creationists. b) Their arguments involve what happened after creation, not when it occurred.

5. Based on intelligent design. a) Proponents of intelligent design have no firm position on the age of the universe. b) They merely believe that God acted as the guiding hand as things evolved.

C. Explanation of geological "evolution"

1. Based on the Bible. a) The Bible does not reveal much about the changes that God has made in the universe since His creation or whether He accomplished them through natural or supernatural means. We know that God has been active, but we cannot say anything about what God has not revealed. We do not know if God does not tell us. Any explanations are complete speculation. b) "The eyes of all look eagerly to you, and you give them their food at the proper time. He opens his hand, and he satisfies the desire of every living thing. The LORD is righteous in all his ways and merciful toward all that he has made. The LORD is near to all who call on him, to all who call on him in truth. He grants the desire of those who fear him. He hears their cry and saves them." Psalm 145:15–19 c) God said, "The soil is cursed on account of you. You will eat from it with painful labor all the days of your life. Thorns and thistles will spring up from the ground for you." Genesis 3:17–18 Note that God made supernatural changes. d) A psalmist wrote, "He turned fruitful land into a salt waste, because of the wickedness of those who lived in it. He turned the wilderness into pools of water and the desert into flowing springs." Psalm 107:34–35 God's creative actions continue.

   Q3. What are the steps in the rock cycle? A: Mountain □ boulder □ cobble □ pebbles □ sand □ silt □ seafloor □ compression □ upheaval □ mountain.

2. Based on science. a) The surface of the earth is composed of numerous large and small tectonic plates which are continually moving relative to each other. They ride over one another to form

mountains and carry surface materials deep into the Earth when they are subducted. They split from each other and form valleys and trenches. The formulation of plate tectonics has revolutionized geology. b) There is a rock cycle through which mountains are broken into boulders by the weathering process. Boulders are further broken down through cobble, sand, and fine dust, which ends up on the sea floor, where it is eventually compressed and rises through plate action to finally again become mountains. The evidence has become overwhelming. c) Hotspots under the earth's crust send up plumes of molten material which break through the earth's surface and create volcanos. These can also build mountains and islands.

3. Based on theistic evolution. a) Proponents of theistic evolution accept the scientific explanation of the underlying geological processes. b) They argue that God has guided these processes for His purpose working over geological time. Did God preprogram them?

4. Based on creation science. a) Proponents of creation science believe that the changes since God's creation of the universe have happened primarily through natural processes except when He has revealed the use of His almighty power. b) They create their own models for geological change using natural laws and the unbiblical principle of the "conservation of miracles." They search for evidence to support these models and to disprove commonly accepted scientific models. They are very selective in what they choose to explain.

5. Based on intelligent design. a) Proponents of intelligent design believe that the earth was created long ago and has undergone changes by the geological processes that scientists propose. b) They differ from scientists by claiming that these changes were the result of a pre-established design which God is gradually implementing as the creation ages. They claim God acted slowly in His creation.

D. Origin of life

Q4. Why is how life originated such a big issue? A: Living material has extremely complex chemistry and is chemically very fragile. If life could evolve, why would any god be necessary?

1. Based on the Bible. a) In Genesis 1 the LORD God reveals that He created all living beings by merely uttering the words calling them into existence. b) The LORD furthermore claims ownership of all creatures that exist. He owns what He created. He said, "Every animal in the forest is mine, the cattle on a thousand mountains. I know every bird in the mountains, and everything that moves in the field is with me." Psalm 50:10–11 c) God especially claims ownership of man and places man under His protection. Man is special. God delegated certain responsibilities to man. He said, "I will hold each animal and each person responsible for your lifeblood. I will hold each man responsible for the life of his brother. Whoever sheds man's blood, by man his blood shall be shed, for God made man in his own image." Genesis 9:5–6 Can man create life? Yes, it has been done.

2. Based on science. a) Based on their assumption that no supernatural beings exist, scientists work on the premise that all living entities arose spontaneously from non-living materials. With no alternative it had to have happened. b) While the process was extremely slow and complicated, they see no other means to create life.

3. Based on theistic evolution. a) Proponents of theistic evolution claim that God created life through scientific processes. God may have put His fingers in the pie at various points. b) God may have used supernatural power to refine or hasten the processes.

   Q5. What is the difficulty for a Christian in trying to formulate a scientific alternative to evolution? A: We do not know the hidden things of God because the Bible reveals very little about how God created the universe.

4. Based on creation science. a) Proponents of creation science believe that all living entities were created during the first six days as described in Genesis 1. b) Some argue that God made them so that they could easily be genetically altered for His subsequent purposes. Explaining "kinds" is very important to these people.

5. Based on intelligent design. a) Proponents of intelligent design argue that God manipulated nature to bring life forth from inanimate material. b) They regard the whole "structure of life" that underlies all living things as part of the intelligent design. Life was handled in a special way.

E. The "Evolution" (changing) of life

1. Based on the Bible. a) Apart from any fossil evidence we find, we know the nature of some animals has changed because all animals once ate plants (Genesis 1:30) and now some eat other animals, i.e., there was a change in diet. The relatively small number of "kinds" (Genesis 1:24) have become numerous species. We find fossils of species that do not currently exist. b) We do not know how many of the changes that the LORD made in living things were through natural processes and how many changes He made though the direct application of his supernatural power. Somehow He increased diversity in species. He has not told us; therefore, we do not know. We cannot peek behind the curtain to see how God works. c) "Indeed, who among men knows a man's thoughts except the man's spirit within him? So also, no one else knows God's thoughts except God's Spirit." 1 Corinthians 2:11 d) "Who has directed the Spirit of the LORD? Who can teach him anything or serve as his advisor? Who was his advisor to give him insight? Who taught him the path of justice? Who taught him knowledge? Who showed him the way to complete understanding?" Isaiah 40:13–14 We can neither resist nor instruct God. e) "For the LORD of Armies has made plans, and who can stop him? His hand is stretched out, and who can turn it back?" Isaiah 14:27

2. Based on science. a) Life evolved from simple cells to form the enormous number of species that we see today through random genetic mutations and natural selection. b) While the mechanism is far from completely understood and many things remain unknown, tremendous progress in understanding portions of it has been made and new information becomes available daily. Science is making slow progress on its "million-mile" journey. Is there an end to it? We must beware of drawing lines in the sand and claiming, "Scientists will never be able to do X?"

3. Based on theistic evolution. a) Proponents of theistic evolution accept the findings of science as a true explanation of how God developed life on earth. b) They view Genesis 1 and 2 merely as simplistic explanations for early people to assure them that God was overseeing what was happening in the world. God was only humoring people in Genesis.

4. Based on creation science. a) Proponents of creation science believe unless God has specifically told us otherwise, changes in living species were accomplished through the laws of nature. b) This is in line with their belief in the principle that God practiced a "conservation of miracles" in the changes that He has made to the universe since creation. They try to find a natural path for "proving the Bible."

5. Based on intelligent design. a) Proponents of intelligent design believe that God manipulated the living creatures through natural and supernatural means to bring about the current species. b) They believe these changes occurred over a long period of time according to a preestablished design which God is gradually implementing as the creation ages. They do not try to define how many of God's actions were natural and how many supernatural.

   Q6. What is the inherent limitation of all scientific models? A: New evidence can invalidate any theory.

F. Summary

1. We believe God created the universe in 6 terrestrial days because the Bible says so.
2. Macroscopic evolution is a corollary of the fundamental assumption of science.
3. Scientific models are always provisional and can never be completely validated.
4. Trying to disprove scientific models is what scientists do all the time.
5. It is folly to challenge scientific models if one does not thoroughly understand science.
6. The purpose of the church is to proclaim the Gospel, not to refute scientific models.

We must keep both feet on the Scriptures and trust God, not human reasoning.

In the beginning God….