

Course 107: The Big Bang and the Anthropic Principle

Student Lecture Notes

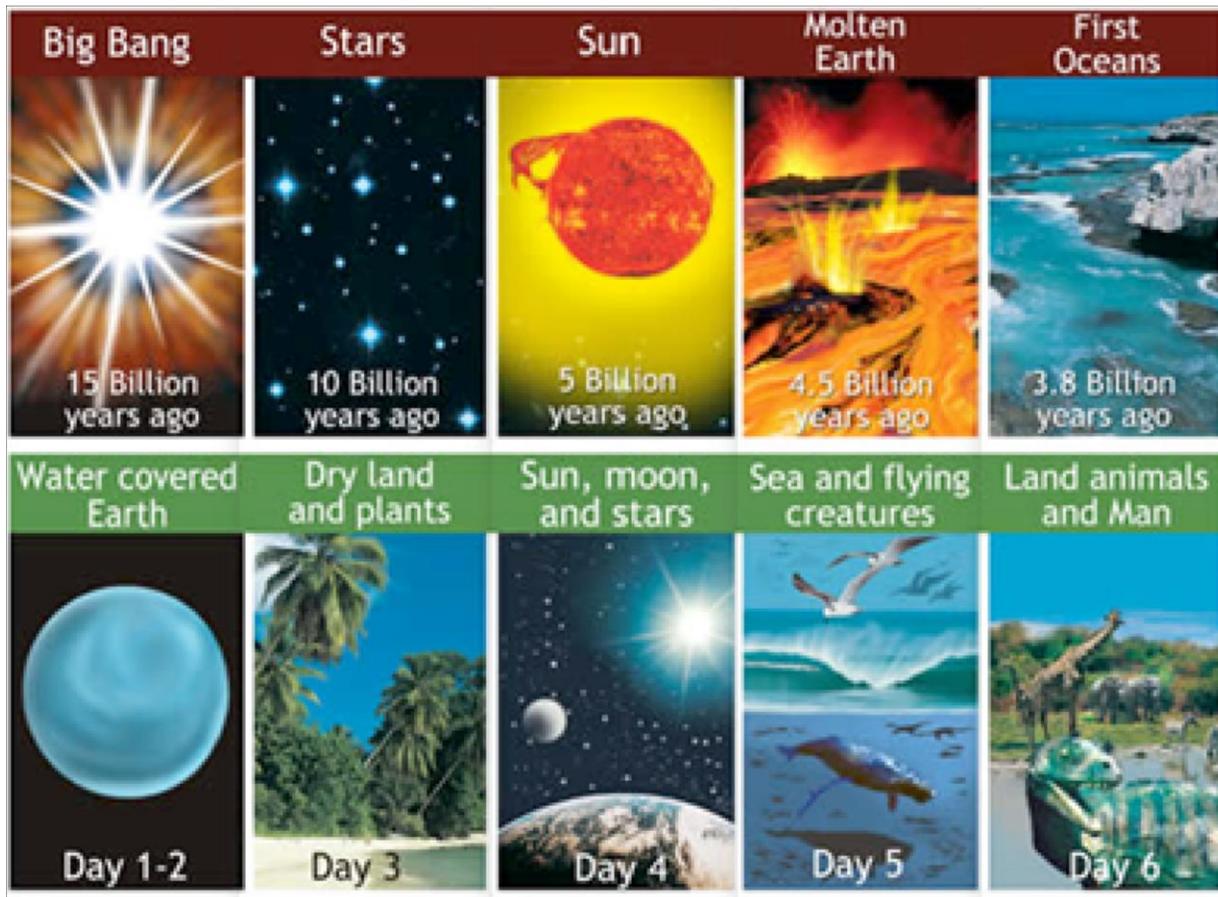
SECTION 1: The Big Bang or the Big Dud?

Name: _____ Date: _____

Lesson: The Big Bang Theory

Origins:

The Evolutionist Time Line Compared to the Creation Week of Genesis 1.



Four Big Questions about Life

- 1. _____ am I and what am I worth?
- 2. _____ did I come from?
- 3. _____ am I here?
- 4. _____ am I going when I die?

- Your _____ determines how you answer these four questions.
 - How would an atheist answer these questions?
 - How would a creationist answer these questions?

WORLDVIEW		
Creationist	Question	Evolutionist/Atheist
<ul style="list-style-type: none"> • A precious soul for whom God gave His only son • A human being, loved by God Himself • A person of worth and value and divine purpose 	Who am I?	<ul style="list-style-type: none"> • Nothing important • Worth only the amount you can satisfy someone else • Part of the problem
<ul style="list-style-type: none"> • The divine Creator 	Where did I come from?	<ul style="list-style-type: none"> • Cosmic burb
<ul style="list-style-type: none"> • To know and glorify the Creator God • To enjoy His creation and His fellowship 	Why am I here?	<ul style="list-style-type: none"> • No <u>reason</u> • Just have fun before you die
<ul style="list-style-type: none"> • If you have trusted Christ, you are going to eternity in Heaven. • If you rejected Christ's propitiation for sin, you are going to an eternal hell, separated from God. 	Where am I going when I die?	<ul style="list-style-type: none"> • The grave to be recycled

Lesson: Does the Big Bang match scientific laws?

- The _____ Principle: the chances of the universe coming into existence all by itself.
- Two basic choices about the origin of the universe:
 - The universe was made by _____ .
 - The universe made itself.
- Humanists regard the universe as self-existing and not _____ .

(Humanist Manifesto I and II, 1933, Tenent #1)

- Big problems with the Big Bang:
 - Where did the _____ come from?
 - Where did the _____ come from?
 - What caused it all to bang?
 - Where did the scientific _____ that controlled the bang come from?
- “¹LORD, our Lord, how majestic is your name in all the earth! You have set your glory in the heavens. ³When I consider your heavens, the work of your fingers, the moon and the stars, which you have set in place, ⁴what is mankind that you are mindful of them, human beings that you care for them? ⁵You have made them a little lower than the angels and crowned them with glory and honor. ⁶You made them rulers over the works of your hands; you put everything under their feet: ⁷all flocks and herds, and the animals of the wild, ⁸the birds in the sky, and the fish in the sea, all that swim the paths of the seas. ⁹LORD, our Lord, how majestic is your name in all the earth!” (Psalm 8:1, 3-9,NIV)

Lesson: Did the Big Bang come from NOTHING?!

Humanists regard the Universe as self-existing and not created.

- The word Universe breaks down into two root words:
 - Uni = _____ + verse = _____
 - Single spoken sentence!
- And God said, “Let there be light...” (Genesis 1:3 NIV)
- Humanist Lawrence M. Krauss wrote in his book, *Why There is Something Rather than Nothing*, that “something actually *can* come from _____; and that the universe and all its laws did come from Nothing; and that the expansion began in an incredibly hot, dense _____ approximately 13.72 billion years ago.”
- The Big Bang idea began with Belgian astronomer, Georges Edward Lemaitre (1894-1966), the end conclusion of which was that the



universe came from nothing at all!

- Dr. Purdom has a _____ in molecular genetics from Ohio State University.
- Dr. Menton has a PhD in cell biology from _____ University.
- These highly educated scientists do **not** espouse the Big Bang Theory, as is true for MANY renowned scientists throughout the world.
- Science: n. [scire, to know] systematized knowledge derived from _____ and study. (Webster's Dictionary)
- When evolutionists claim that "nothing exploded into nothing," that is not science. It is blind _____ in absolutely nothing!
 - *Scientific American* "...the observable universe could have evolved from an infinitesimal region. It's then tempting to go one step further and speculate that the entire _____ evolved from literally nothing."
 - Arizona State University Physicist Lawrence Krauss says, "Nothing is doing something, and not only that. It has to do **something**." This is a logical fallacy!
- Christians place their faith in the Bible which says that Someone made everything!

Lesson: Did the universe create itself?

- The First Law of Thermodynamics states: "Matter (and/or energy) cannot be _____ or _____ ."

Lesson: "Something from Nothing" Interviews with Ray Comfort and Kirk Cameron.

Lesson: Is a self-existing universe *logical*?

- When evolutionists and atheists state that "nothing made everything," this violates two principles of logic.
 - Principle of sufficient _____: Everything needs an explanation.
 - common sense
 - science
 - philosophy
 - theology
 - Principle of _____: Every event with a beginning must have a cause.
- Sceptics have no reason and no cause for the beginning of the universe. This denies known laws of logic and science. Their theory of "nothing made everything" is not only unscientific, it is _____ - scientific.

Read Article #1

In the beginning God created—or was it a quantum fluctuation?

Take Quiz over Article #1

In the beginning God created—or was it a quantum fluctuation?

Lesson: How the Solar System Started

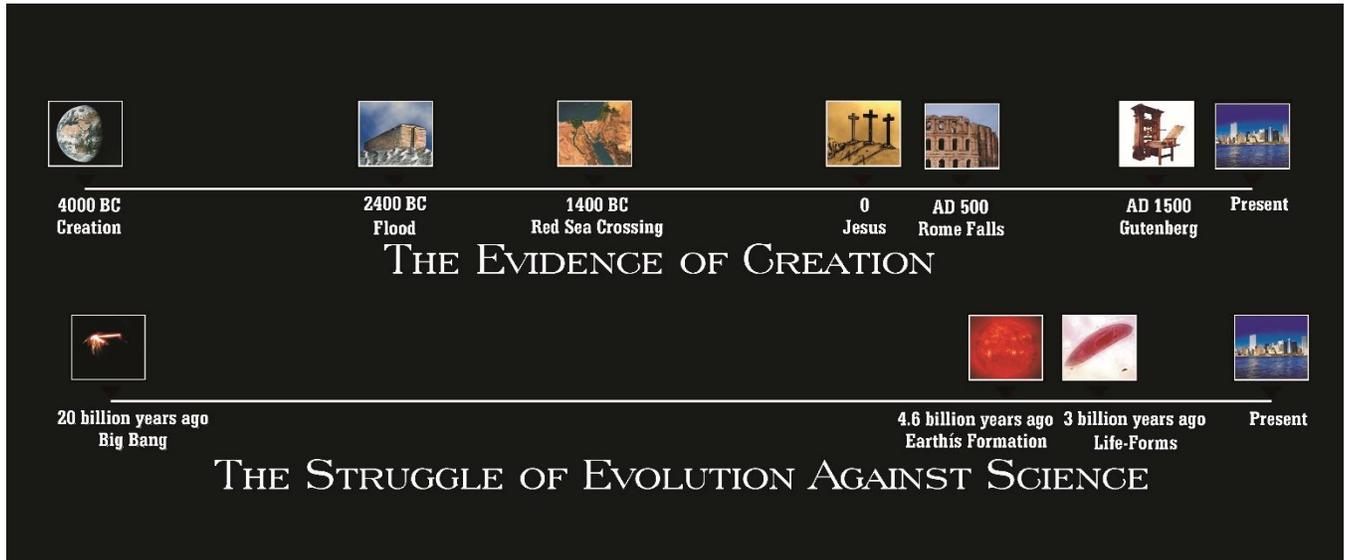
- Evolutionists theorize that after the big bang, a nebula formed that spun faster and faster, and flattened out, and slowly formed a star—our sun—and gradually our entire universe.
- New media and textbooks try to make this argument of origins a scientific : vs. debate. But evolution is not scientific; it's totally religious, being believed by faith.
- Until 1916, Einstein believed that the universe had no beginning. But his field equations of general relativity predicted an universe. Because he didn't like this conclusion, he his equations. Einstein later confessed to George Gamow that this was the biggest blunder of his life.
- As early as 1925, scientists like Astrophysicist Lemaitre, Inventor of the first telescope Edwin Hubble, Mathematician George Gamow, and Physicists Arno Penzias and Robert Wilson began proving with the evidence from their studies that the universe had to have a .
- The Bible told us the universe had a beginning, thousands of years earlier in Genesis 1:1 and Psalm 102:25-27.

Lesson: The Law of Causality

- Every event with a beginning must have a cause. So then, what about ? What God?
- Psalm 90:2 “Before the mountains were born or you brought forth the whole world, from everlasting to everlasting you are God.”
- Isaiah 43:10 ““You are my witnesses,” declares the LORD, “and my servant whom I have chosen, so that you may know and believe me and understand that I am he. Before me no god was formed, nor will there be one after me.”
- God is eternal. God has no ; therefore, He needs no cause.
- This is a deductive argument.

- The **Argument of the Unmoved** _____, or *ex motu*, tries to explain that God must be the cause of motion in the universe. It's a form of *the cosmological argument*, employing Aristotle's dichotomy of potentiality and actuality.
 - Some things are in motion.
 - A thing cannot move itself; it requires a mover.
 - An infinite regress (going backwards to find the first source) of movers is impossible.
 - Therefore, there is an unmoved mover from whom all motion proceeds.
 - This unmoved mover is who we acknowledge as God.
- Thomas Aquinas, one of the most brilliant philosophers and theologians in Christianity, summarizes his five arguments for the _____ of God in his book, *Summa Theologica*.
- The **Argument of the** _____, or *ex causa*, different from the Unmoved Mover Argument, tries to prove that God must have been the cause, or the _____ of the universe. It is another form of *the cosmological argument*.
 - Some things are caused.
 - Everything that is caused is caused by something else.
 - An infinite regress of causation is impossible.
 - Therefore, there must be an uncaused cause of all that is caused.
 - Christians believe this Uncaused Cause is God.
- The **Argument from Contingency**, or *ex contingentia*, is another face of *the cosmological argument*.
 - Many things in the universe may either exist or not exist, and are all finite.
 - Such things are called _____ beings. (not infinite; not eternal)
 - It is impossible for everything in the universe to be contingent, for then there would be a time when _____ existed, and therefore, nothing would exist now because there would not have been anything to bring something else into existence.
 - Because something does exist now, this is clearly false.
 - Therefore, there must be a necessary being whose existence is not contingent on any other being or beings.
 - This being is who we call God.

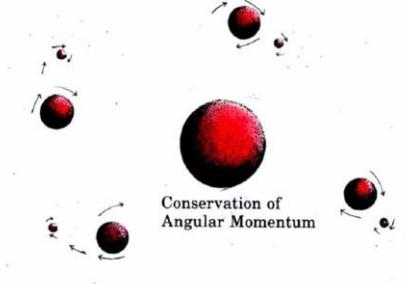
Lesson: Is the Big Bang Scientific or Religious?



- When skeptics answer that they don't know what created the universe, they are actually trying to escape having to choose between "Nothing" and "God."
- Because choosing either of these choices, nothing or God, takes faith, they are *both* _____ views!
- **Metaphysics**
 - If you asked a college professor at a secular university the following questions, what would they answer?
 - "Where did the _____ come from for the Big Bang?"
 - Most will answer, "We don't know."
 - "Where did the _____ come from that govern the universe such as gravity, centrifugal force, inertia, Cole's law, the laws of thermodynamics, etc.?"
 - Most will answer, "We don't know."
 - "Where did the _____ come from?"
 - Most will answer, "We don't know."
 - This answer does not represent an opinion based on science.
 - Theories that are not based on science, but rather on blind faith are called _____ .

Lesson: Examining the Big Bang with Laws from Physics

- The Law of the Conservation of Angular Momentum: the angular momentum of an object remains constant unless acted upon by an external force.
- This law causes big problems for the big bang theorists.
- If a piece breaks off of a spinning object:
 - It will be spinning at the **same speed** as the spinning object from which it broke.
 - Therefore, our sun should be spinning very rapidly. But our sun actually spins very _____.
 - In fact, although the sun has over 99% of the mass of the solar system, it has only 2% of the angular momentum.
 - This pattern is directly _____ to the pattern predicted for the nebular hypothesis.
 - It will spin in the **same direction** as that of the spinning object from which it broke.
 - Therefore, all the planets and moons in our solar system should be spinning the _____ direction.
 - However, Venus, Uranus, and possibly Pluto rotate _____ from the other six planets.
 - Eight of the 91 moons rotate backwards.
 - Jupiter, Saturn and Neptune have moons orbiting in *both* directions.
 - Some galaxies even spin backwards.
- If the Big Bang Theory were true, the chemical make-up of the matter breaking off should be approximately the same as the original nebula.
 - Our sun is _____ % hydrogen or helium.
 - Less than _____ % of Mercury, Venus, Earth, and Mars is hydrogen or helium.
 - Why are the nine planets so different from each other and from the _____?
- If the Big Bang Theory were true, the matter breaking off would be _____ distributed.
 - Instead, the universe is _____ with clusters of stars and then great “voids.”



- The Big Bang is a Big Dud!
 - It violates too many known laws of science.
 - Sir Fred Hoyle, astronomer, cosmologist, and mathematician of Cambridge University said, “I have little hesitation in saying that a sickly pall now hangs over the _____ theory.”

Lesson: God’s Big Bang — Not at the Beginning, but at the End!

- Science n. [<scire, to know] 1. Systematized knowledge derived from _____, study, etc. —Webster’s Dictionary
- According to the very definition of science, the Big Bang is not scientific. People may choose to believe that theory, but it is then metaphysical rather than scientific.
- The Bible does talk about the big bang.
 - 2 Peter 3:10 “But the day of the Lord will come like a thief. The heavens will disappear with a _____ (big bang!); the elements will be destroyed by fire, and the earth and everything done in it will be laid bare.
- We can trust the Bible, God’s infallible Word.
 - It’s completely accurate historically.
 - It’s completely accurate scientifically.
 - It’s completely accurate morally.
 - It is the truth.

Take Quiz over Section 1: The Big Bang or the Big Dud?

SECTION 2: The Anthropic Principle — What Are the Chances?

Lesson: The Anthropic Principle

- The Anthropic Principle analyzes what the chances of our universe coming into existence by itself, without intelligent design, truly are.
- After scientists repeatedly confirm the astonishing precision of carefully balanced equations, constants, and properties of matter, their conclusion is found in the **Anthropic Principle**, which states that **the universe must have been carefully designed for the well-being of mankind.**

Lesson: Our Awesome Universe

- Don B. DeYoung, Ph.D., Physicist, Author of *Pioneer Explorers of Intelligent Design*
- Psalm 33:6-9 “⁶By the word of the LORD were the heavens made; and all the host of them by the breath of his mouth. ⁷He gathereth the waters of the sea together as an heap: he layeth up the depth in storehouses. ⁸Let all the earth fear the LORD: let all the inhabitants of the world stand in awe of him. ⁹For he spake, and it was _____ ; he commanded, and it stood fast.”
- Dr. Jason Lisle, Astrophysicist, Planetarium Director, Creation Museum
- Psalm 147:4-5 “⁴He counts the number of the stars; He calls them all by name. ⁵Great is our Lord, and mighty in power; His understanding is infinite.”
- Dave Hunt, Author of *Cosmos, Creator, and Human Destiny*
- Psalm 8:1, 3 “¹O LORD our Lord, how excellent is thy name in all the earth! who hast set thy glory above the heavens. ³When I consider thy heavens, the work of thy fingers, the moon and the stars, which thou hast ordained; ⁴What is man, that thou art mindful of him? and the son of man, that thou visitest him?”
- Isaiah 55:9 “For as the heavens are higher than the earth, so are my ways higher than your ways, and my thoughts than your thoughts.”
- Most astronomers agree that the universe is expanding. This agrees with Isaiah 40:21-22 “²¹Have ye not known? Have ye not heard? Hath it not been told you from the beginning? Have ye not understood from the foundations of the earth? ²²It is **He** that sitteth upon the circle of the earth, and the inhabitants thereof are as grasshoppers; **that stretcheth out the heavens as a curtain**, and spreadeth them out as a tent to dwell in:”
- Psalm 19:1 “The heavens declare the glory of God.”

Lesson: What is within the realm of possibility?

- The prominent evolutionist George Wald stated, “_____ is in fact the hero of the plot. The time with which we have to deal is of the order of two billion years. What we regard as impossible on the basis of human experience is meaningless here. Given so much time, the ‘_____’ becomes possible, the possible probable, and the probable virtually certain. One has only to wait: time itself performs the miracles.”
- In reality, Wald’s claim is beyond logic or reason. It is like saying someone can throw a dart all the way across the United States and hit a bullseye—no way!

- The assumption that given enough **time** and enough **tries**, anything is possible is a faulty assumption because some outcomes have a **zero percent probability**.
- The forming of a living, organized universe needs much more than lots of time and lots of chances. The formation of _____ known cell requires:
 - formation of amino acids from basic elements
 - combination of the amino acids in only the L-configuration, not the D-configuration
 - formation of long sequences of amino acids in the correct order to form proteins
 - large numbers of chemical bonds to form _____ and RNA
 - formation of the remaining parts of the cell in a chemically and thermodynamically unstable environment
 - arrangement of the minimum 250 protein cells in exactly the correct order
 - Approximately 20 different amino acids, all in the correct order are needed to build each of the proteins.
 - All of the above defy the Second Law of _____ which states that the natural tendency of any isolated system is to degenerate into a more **disordered** state!
 - Chance of the right amino acids chosen to build a protein = 1 in 10^{74}
 - Chance of amino acids being tied with required peptide bonds = 1 in 10^{45}
 - Chance of all amino acids being left-handed to build the protein = 1 in 10^{45}
 - Multiplying all these requirements, you have a chance of building one protein at a ratio of 1 in 10^{164} .

○ **Therefore, building the simplest protein by chance has a success probability of 1 in _____. This has to be done 250 times, and then the proteins have to be organized properly to get the most basic form of life—one cell!**

- A human body is made up of over 3 trillion cells!
- George Wald is _____! The possibility of billions of random chances over billions of years producing life offers a zero probability for success!

Lessons: The Universal Probability Bound

- Anything that exceeds the Universal _____ Bound is impossible to happen by chance (without intelligent causation) because there is neither enough time nor matter for it to happen by chance.

- Evolutionists try to get around the Universal Probability Bound fact by theorizing there is a _____ equaling tons of other universes yielding more matter, and more time, for more chances.
- This evolutionist multiverse theory is not testable, repeatable, observable, and falsifiable. Therefore is _____ which means it is blind faith, without evidence, religious, pure speculation wrapped up in scientific language.
- The Copernican Principle, or the Principle of Mediocrity, says that the Earth is nothing special; it has no purpose or _____.
 - Leading atheist and evolutionist Carl Sagan embraces and promotes the Copernican Principle.
 - If the Copernican Principle is true, there should be life forms all over the place since we are nothing special on planet Earth.
 - This is not what we find. We have not found life on any other planet. We are special!

Read Article #2 – *Anthropic Principle*

Take Quiz over Article #2 – *Anthropic Principle*

Lesson: “Privileged Planet” Video

Lesson: “Finely Tuned Forces” Video

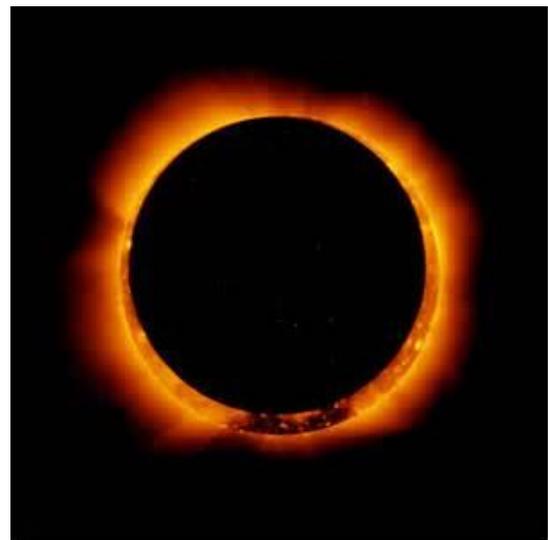
Lesson: Requirements for a Life-Sustaining Planet

- Some of the requirements for life to survive on a planet:
 - within the Galactic Habitable Zone
 - some places in the galaxy are extremely hostile to any life surviving
 - orbiting main sequence G2 dwarf _____
 - the star must be the right size
 - must be glowing at the right temperature
 - protected by gas giant planets
 - to protect the planet from asteroids, meteors, and comets
 - within circumstellar habitable zone
 - must be the right distance from the sun or extreme hot or cold would kill life
 - nearly _____ orbit
 - or it would result in the planet orbiting too close or too far away from the sun

- oxygen-rich atmosphere
- correct mass
 - the mass effects the gravity
- orbited by large moon
 - correctly affect the tides to take-in and release heat
- _____ field
- plate tectonics
- ratio of liquid water and continents
- terrestrial planet
 - not simply a “gas” planet
- moderate rate of _____

Lesson: Forces Fundamental to Life

- Some Fundamental Forces Necessary for Life:
 - carbon energy resonance
 - Boltzmann’s Constant
 - Planck’s Constant
 - weak nuclear force
 - strong nuclear force
 - _____ force
 - speed of light
 - electromagnetic force
 - _____ mass
 - electron mass
- Out of the 91 moons in our solar system, our moon is the only moon that provides _____. Our moon is the perfect distance from the _____ and the perfect distance from the sun. It’s the perfect shape and it rotates at the perfect speed.
- Our sun is _____ times bigger than the moon, but it’s also _____ times farther away.
- We are able to understand a lot about the universe.



- This understanding is much more than merely enough knowledge to survive and procreate, which is what is expected from _____ natural selection.
- The creator of the universe, God Himself, made everything for us to enjoy and understand. He wants to bless us. He wants us to love Him. He wants a personal relationship with each of us.
- God in His perfection must judge sin. He provided His son, Jesus Christ, to pay our sin debt. We can enjoy eternity with our Creator by trusting Jesus Christ as our Lord and Savior.

The Big Bang is a Big Dud!
The Anthropic Principle clearly presents the case for a Creator!

Take Quiz over Section 2:
The Anthropic Principle — What Are the Chances?