

CLASS 5 Astronomical Measurements

1. True
2. Space is way too big for those measurements to have any meaning or be helpful
3. b, d, f
4. a
5. A light year is the distance light travels in one year and is equal to 5.88 trillion miles
6. 10AU, 10 light years, 10 parsec
7. False
8. False
9. True
10. Parallax and arcsecond
11. 3.25

CLASS 6 Parallax Explained

1. True
2. As the landscape passes by, objects in the foreground (near) appear to move faster/more than objects in the background (far away). Or, objects in the background (far away) appear to move slower/less than objects in the foreground (near).
3. Objects that are far away appear to move less compared to closer objects AND Objects that are close appear to move more compared to farther objects.
4. True
5. False
6. True
7. More
8. The earth is moving.
9. Tangent

REVIEW: CLASSES 1-6

Across

2. Astrology
4. Galileo
6. Nomos
7. Bible
9. Stonehenge
13. Venus Tablet of Ammisaduqa
15. William Herschel
17. Annie Jump Cannon
18. Aristarchus

Down

1. Principia
3. Logos
5. Astronomical Unit
8. Light Year
10. Copernicus
11. Parsec
12. Parallax
14. Astronomy
16. Law

CLASS 7 Solar System: Introduction and Planets

1. d
2. 39.5 times farther ("about 40" would be OK)
3. An elliptical orbit
4. The solar system is so large and the spaces between the planets so great that nothing would be visible if drawn to scale. Everything would be too small to see, except maybe the sun would be a tiny yellow dot on a piece of 8x11 paper.
5. 5.88 trillion miles. 1 light year. About 1/3, or 0.3, parsec.
6. 33.72 years
7. False
8. a, b, c, d
9. The sun
10. Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus. Neptune
11. b, c, f
12. Mercury, Jupiter
13. True

13. Heliosphere – the bubble around the solar system created by solar wind; Interstellar wind – wind created by the stars of the universe; Bow wave – where the heliopause and the interstellar wind meet; Heliopause—Where the solar wind moves at the same speed as the interstellar wind; Bow shock—where solar wind and the magnetosphere meet.

REVIEW: CLASSES 7–20.1

Across

4. Plasma
7. Mercury
9. Year
11. Asteroid
12. Venus
14. Jupiter
15. Solar System
17. Convective Zone
19. Corona
22. Spheroid
25. Solar Wind
26. Fusion
27. Farthest
28. Largest
29. Heliopause
30. Kiyyun
32. Bow Shock

Down

1. Voyager
2. Granule
3. Heliosphere
5. Great Red Spot
6. Revolution
7. Magnetosphere
8. Planetes
10. Rotation
13. Fourth
15. Solar Flare
16. Lesser
17. Coronal
18. NASA
20. Sixth
21. Hydrogen
23. Dwarf
24. Sunspots
25. Sol
31. Uranus

CLASS 21 The Stars: Introduction

1. Gas (or Plasma)
2. d
3. Two stars orbiting the same center of mass. Or, two stars very close together that appear as one star in the sky.
4. True
5. Many stars (thousands or millions) bound together by the same gravitational force (or many stars closer together than normal) that orbit a galaxy.
6. False
7. c

CLASS 22 The Stars: Distances, Colors & Temperatures, Numbers

1. True
2. b
3. Icarus. 9 billion light years.
4. False
5. Their temperatures.
6. Yellow
7. False
8. Blue stars
9. 100 billions
10. False

CLASS 22.1 Binary Stars and Gravity: Part 1

1. binary star
2. a
3. True
4. Answers will vary but should include a situation where a push or pull is exerted in order to get work done. (Like pushing a grocery cart down the aisle at the grocery store or pulling weeds out of the garden or pulling a book off the bookshelf.)
5. c
6. Each star in a binary system has gravity, which is a force that pulls things toward it. In a binary system, Star A's gravity pulls on Star B and Star B's gravity pulls on Star A. The mutual gravitational pulling force keeps the stars "together" so that they are always near one another, orbiting a common point in space.
7. True
8. against
9. b
10. False
11. True
12. mass
13. d

ACTIVITY

Answers will vary but should include at least 4 examples where the student experienced gravity pulling him or an object he was interacting with toward the center of the earth (e.g. jumping into a swimming pool, throwing a ball, dropping a plate and falling from a tree.)

REVIEW: CLASSES 21–27.1

Across

3. Yellow
5. Galaxy Cluster
6. Supernova
7. Reflection
8. Orion
11. Proxima Centauri
13. Universe
14. Celestial Equator
17. Red
19. Spiral
20. Sirius
21. Polaris
23. Blue Star
24. Elliptical

Down

1. Planetary Nebula
2. Cluster
4. Expanding
5. Gas
9. Star Cluster
10. Binoculars
12. The Tower
of Babel
15. Emission
16. Binary
17. Rigel
18. Day Four
22. Cosmic

CLASS 28 Foundation of Beliefs

1. a, b, c, d, e
2. True
3. There was nothing and then there was something. Nothing created all the matter of the universe; it somehow created itself.
4. The All-Powerful God created everything. It wasn't nothing, it was the Intelligent Creator. Everything fits together too well to the result of random chance.
5. True
6. True
7. Creation
8. Naturalism
9. b, c, d, e
10. Examine the scientific evidence and determine which model explains it most accurately and logically.
11. This is an opinion question and the student is encouraged to discuss with his/her parent/teacher.

PUZZLE

Creation—The universe is not a product of chance. There is an all-powerful God who created everything. The universe has a purpose.

Naturalism—There is nothing outside of nature. What we observe is all there is and all there ever was. The worlds came into existence by itself. There is no reason for what we see.

CLASS 29 Naturalism is Illogical

14. From nowhere
15. From God
16. True
17. Naturalism scientists reject God's existence, or that if He does exist, He didn't have anything to with creating the universe. However, it is not possible to scientifically prove that something does not—or did not—ever exist. Therefore, naturalism scientists have faith that God doesn't exist, which means they are as "guilty" of having a faith-based universe origins model as creation scientists are.
18. True
19. False
20. The only reason that the law of gravity exists is because the matter that creates gravity existed first. If there is no matter, then there is no gravity. It is illogical to believe that the law of gravity exists before the matter that causes gravitational attraction.
21. b
22. Nothing
23. It could not have formed.

CLASS 30 Creation is Logical

1. True
2. a, b, c, d, e
3. True
4. False
5. True
6. The product of creation is evident in the creation. According to naturalism, only material things matter—only matter itself and the interactions that it has with other matter—plays a part in the formation of the universe and everything in it. Further, only random processes are produced by nature, which are expected to produce random results. The laws of logic are not

8. This is admittedly a tough one to answer and I think either a "Yes, it does" or "No, it doesn't" answer is correct if the reasoning is correct. If the answer is "Yes," then the reasoning should be something along the lines of this: while it does technically violate the first law of thermodynamics, God is All Powerful and can do miracles, which means that He can do anything He wants, including creating all the matter and energy in the universe at the sound of His words, "Let there be..." This is not a problem because it is entirely consistent with the Bible. Now, if the answer is "no"(which is the answer I favor), it would sound something like this: God is the One who created the laws in the first place and since He is all-powerful, He can do miracles or whatever He wants to fulfill His will; He can't violate anything since He is the law-maker. Additionally, technically, before the matter and energy in the universe existed, God was there. God has always been there, but the matter and energy were new creations when He spoke the words to create them. Now, when there was only God and no matter or energy, there was technically no natural laws/physics laws because those laws only exist due to the existence of the matter and energy itself. Therefore, there would have been no first law of thermodynamics to violate when God performed the miracle of bringing everything into existence by speaking. As soon as He created the heavens and Earth, then the matter and energy existed, which would have instantaneously created the laws that govern their movements and interactions.
9. d
10. False
11. That the Bible must be the True Word of God; therefore, whatever it says about the universe (or any topic) is true.

REVIEW: CLASSES 28–34

Across

2. Life
6. Stephen Hawking
9. Creation
10. Future
11. Chance
13. God
16. Random
18. Teleological
19. Matter
20. Complex and Highly Ordered
23. Big Bang
24. True
25. Cosmological
26. Fred Hoyle

Down

1. Designed
2. Logic
3. Nothing
4. History
5. Logical
7. Beginning
8. Purpose
12. Constellations
14. Miracle
15. Prophecy
17. Nature
21. Archaeology
22. Naturalism

CLASS 35

Confirmed by Scripture: Genesis 1:14-16

1. True
2. True
3. b, d, e, f, g
4. In any order: Sun, moon, stars
5. Because back then, there was no word for "universe" and heavens was used to describe what we today call "the universe."
6. The sun shines only during the day, and the moon and stars are visible only during the night.
7. Any of: God made the sun stand still, God made the sun move backwards, God used a star to indicate Jesus' birth, God will use many signs in the heavens in the future.
8. Earth constantly orbits the sun, so the stars we can see change positions during the year. Also, some stars are only visible during certain times of the year. These times of the year are predictable and align with the seasons.
9. 1 year (or 12 months)
10. Month
11. False
12. True

Genesis 15:5—The stars are innumerable

Isaiah 40:22—The earth is round and the universe is expanding

Job 26:7, 10—The earth hangs on nothing and has a circle on its face

Genesis 2:2 & John 1:3—All of the matter in the universe was created by day 6

REVIEW: CLASSES 35–39

Across

1. Sun
3. Innumerable
5. God
6. Heaven
8. Lunar Eclipse
9. Septillion
10. Lights of the Heavens
13. Ptolemy
18. Terminator
20. Isaiah
21. Sign

Down

2. Nothing
4. Moon
5. General Relativity
7. Telescope
11. Expanding
12. Spheroid
14. Matter
15. Gravity
16. Six Days
17. Month
19. Mass

CLASS 40 Naturalism: Introduction

1. Many
2. Naturalism
3. True
4. a, b, c, d, e
5. Outside, nature
6. Nothing
7. An extremely/infinately hot, extremely/infinately small point of energy that is the source of all matter and energy in the universe.
8. True
9. All matter and energy were concentrated into a singularity, an infinitely small point, which then exploded, distributing all the matter and energy of the universe. Over billions of years, matter condensed and formed stars, planets and galaxies.
10. Cannot
11. a, b, c
12. True
13. False

CLASS 41

Problems for Naturalism: Big Bang and Evolution

1. Theism, Naturalism
2. False
3. There is no scientific explanation.
4. d
5. a
6. Life
7. An idea of how “simple” life forms became more “complex” so that non-living chemicals formed into the first living cell, fish transformed into amphibians and amphibians into reptiles, etc.
8. False
9. That life always comes from life; life never originates from non-living things.
10. True
11. True
12. Impossible
13. Creation

CLASS 42

Problems for Naturalism: Antimatter and Dark Matter

1. Without
2. b
3. False
4. True
5. Antimatter is also always produced, which means there should be relatively equal amounts of matter and antimatter in the universe. However, there is virtually no antimatter.
6. False
7. b.
8. There is no explanation for the absence of antimatter, which weakens naturalism as a scientific universe origins explanation.
9. False
10. Because it is not possible to detect it...it’s invisible or “dark”.
11. b, c
12. c
13. b
14. a, b, c, e
15. Because Jesus holds the universe together.

CLASS 43.1 More About Dark Matter and Dark Energy: Part 1

1. False
2. False
3. True
4. False
5. True
6. a, b, d, e

CLASS 43.2 More About Dark Matter and Dark Energy: Part 2

1. True
2. False
3. About 70%
4. a, b, c, e
5. True

CLASS 44 Problems for Naturalism: Solar Systems & Star Formation

1. A collapsing nebula.
2. a
3. Solar wind
4. True
5. The way that the naturalism model proposes a solar system forms is the way that a solar system always must form because the formation model is built on physics laws. The naturalism story is that stars form first from the collapsing nebula, then the solar wind blows the lighter elements further away from the star, then the planets form. That means that all solar systems should be built like ours—the rocky planets closer to the sun and the gas giants farther away. However, that isn't the case. Most other solar systems have the gas giants very close to the star. This is a problem for the naturalism model. Solar systems either form one way or the other. The story can't always change to accommodate the divergence from their narrative because the naturalism model itself doesn't allow for those divergences. The model either follows the physics, or it doesn't. If it doesn't, then it undermines the naturalism model.
6. 150

7. Closer to their star.
8. From collapsing nebula.
9. b
10. It's formed the exact way God wanted it to be.

CLASS 45 Formation of the Solar System: Part 1

1. True
2. a
3. Naturalism
4. c
5. a, b, c, e
6. Nothing
7. b
8. True
9. No
10. God
11. c

CLASS 46 Formation of the Solar System: Part 2

1. a, c, d, e
2. False
3. a
4. Wind
5. d
6. Accretion
7. b
8. True
9. No
10. True

REVIEW: CLASSES 40–46

Across

3. Laws of Nature
5. Antimatter
8. Meter
9. Law of Biogenesis
11. Accretion
13. Wind
16. Annihilate
18. Supernatural
19. Gas
20. Creator

Down

1. Galaxy Rotation Curve
2. Particle
4. Observed
6. Same
7. Red Shifted
10. Singularity
12. Eyewitness
14. Dark Energy
15. Dark Matter
17. Nebula

2. That the Creator of the Universe is outside of nature and that He created the universe purposefully.
3. a, b, c, d, e
4. No one
5. God (and Jesus Christ and the Holy Spirit)
6. His words
7. power, word
8. True

CLASS 53 **Supernatural Origins:**
Romans 1:19, 20

1. His invisible attributes—eternal power and divine nature.
2. This is an opinion question that I wanted the students to think about before answering the rest of the questions. Again, I think it's important for the student and parent(s) to discuss these soul-rendering issues.
3. What has been made. Creation.
4. False
5. Wanted
6. a
7. True
8. An individual's choice

REVIEW: CLASSES 47–53

Across

3. Faith
5. Quasar
7. Eyewitness
9. Neutron Star
11. Obvious
12. Ekpyrotic
14. Five Manifestations
18. Comet
19. Unlimited
20. Asteroid
21. Limited
22. Perceived
24. Standard Model
25. Time

Down

1. Pulsar
2. Black Hole
4. Ceres
6. Solar
8. White Dwarf
9. Nucleus
10. Relativistic Jet
13. Nothing
15. Ion Tail
16. Fixed Order
17. Word
23. Vesta

CLASS 54 **The Universe is Designed:**
Genesis 1, Isaiah 45:18 – Gravity in Space and on Earth

1. Designed by God
2. So that it could be inhabited by people, animals, plants and more
3. A constant force pulling everything towards the center of the earth
4. Precise
5. True
6. Everything would drift into space. Solar systems and galaxies would not keep their form.
7. The galaxies, stars, and planets would have been pulled together. The universe would have collapsed on itself.
8. False
9. Methane, Ammonia
10. The force of gravity keeps it on the earth.

CLASS 55 **The Universe is Designed:**
Galaxy Shape and Position

1. True
2. c, e
3. A stretched-out circle.
4. Heavy
5. Living things/life as we know it need these heavy elements to exist and so if these elements aren't found in elliptical galaxies, then life can't exist anywhere in them.
6. False
7. b
8. A spiral galaxy
9. b
10. False

PUZZLE

Elliptical—Stretched out circle

Irregular—No common shape

Spiral—A central bulge