

1. Video Chapters 1-3 (0:00-14:00)

Basic Questions:

1.1. What were the names and launching year for the space programs noted at the beginning of the video?

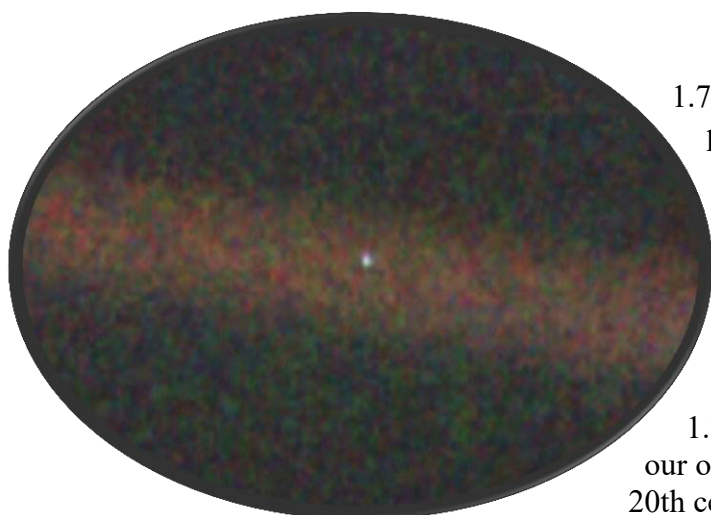
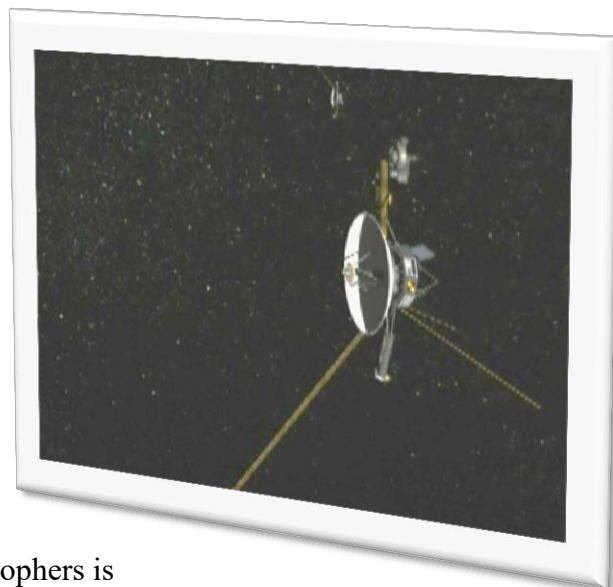
1.2. On February 14, 1990, the satellite took a picture of a “pale blue dot” viewed from millions of miles away. That dot was the _____.

1.3. Who were some of the early philosophers that pondered our planet's place in the universe?

1.4. The name of the theory put forth by these philosophers is _____, which states that the Earth is stationary and everything rotates about it.

1.5. This view persisted for many centuries until 1543 when _____ published his theory that the Sun is the center of our solar system.

1.6. The name of this new theory that eventually replaced the prior one is (circle one): atomic theory / golden ratio / heliocentrism.



1.7. The view that our Earth is rather plain was popularized by _____.

1.8. Paraphrase the quote that summarizes this view based on the pictures taken by the satellites.

1.9. Discoveries of other _____ beyond our own Milky Way by Edwin Hubble early in the 20th century (1900s) led to this view being readily accepted.

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1.10. What key question about the Copernican Principle is asked given the scientific discoveries made in recent decades?

1.11. The quote by Robert Jastrow summarizes the view that Earth is just one of _____ and life as we know it is just one of many _____.

1.12. SETI stands for _____, _____, the program started in the 1960s based on this popular view.

1.13. SETI is considered worthwhile by being undergirded by the following view: the universe is so vast that what happened on Earth likely happened elsewhere. True or false?



1.14. _____ is the first noted astrobiologist in the video who coauthored the book by the same title as the video.

1.15. This astrobiologist initially (circle one) agreed with / laughed at / criticized the view that life was plentiful in the universe.

1.16. Because of discoveries in the field of physics and the fact that they apply everywhere in the universe, astrobiologists believe that the factors required for life on Earth are also required everywhere else in the universe. True or false?

2. Video Chapters 4-6 (14:01-26:41)

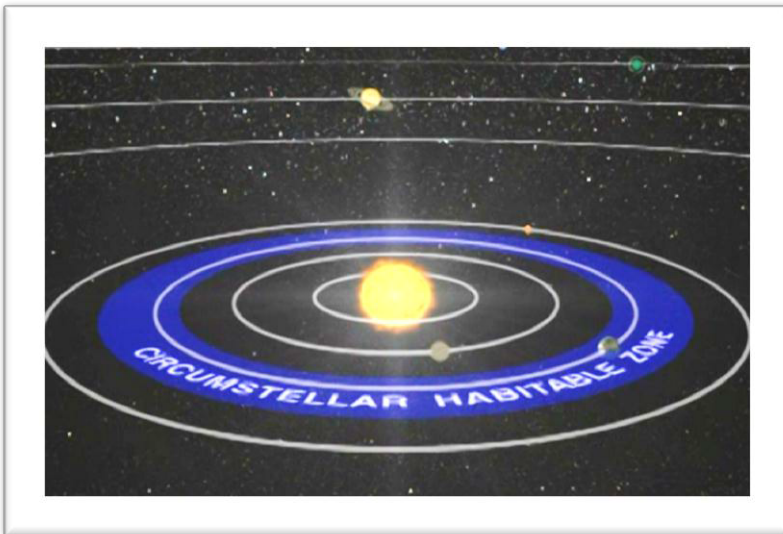
Basic Questions:

2.1. _____ is a prerequisite required for life.

2.2. What other requirement makes this first one possible?

2.3. As planetary physicist Kevin Grazier notes, just as in real estate, a key features for a planet to support life is “_____”

2.4. The “just right” requirement discussed is also known as the (circle one) golden ratio / heliocentric theory / “Goldilocks zone” in the video.



2.5. List three of the many requirements for life.

2.6. The (circle one) Drake / general relativity / astrobiological equation has been used to determine the chance of having the correct parameters for life elsewhere in our galaxy.

2.7. The factors and how they interact in that equation has led astrobiologist Guillermo Gonzalez to think that complex technological life is common in the universe. True or false?

2.8. What is the name of the book written by astronomer Donald Brownlee regarding the likelihood of life in the universe?

3. Video Chapters 7-8 (26:42-35:52)

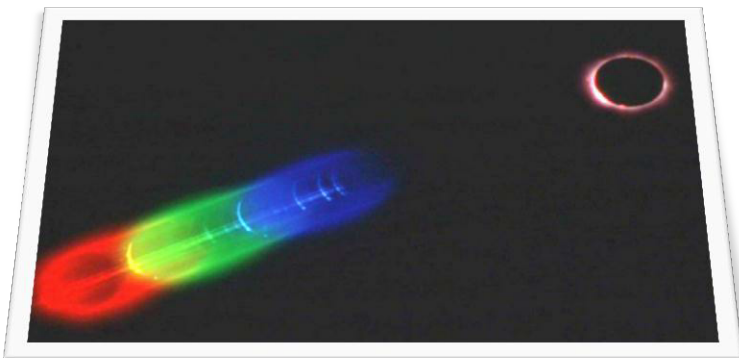
Basic Questions:

3.1. What astronomical event that occurred on October 24, 1995 led Gonzalez to begin asking questions?

3.2. The Sun is (circle one) 100 / 200 / 400 times larger than the Moon, but it is also (circle one) 100 / 200 / 400 times farther away.

3.3. As a result of these astronomical events, scientists learned about the make-up of the Sun's _____.

3.4. This discovery was made possible as a result of the _____, which occurs very briefly, shortly after the Sun is completely covered.



3.5. What atomic element was discovered as a result of these findings?

3.6. Gonzalez noticed that the parameters required for the eclipse and some of the factors required for life overlap. True or false?

3.7. What is the name of the article written by Gonzalez that caught Richards's eye?

3.8. Gonzalez's article caught Richards's attention because Richards was studying design inferences in cosmology through probability theory in fine-tuning of physical laws. However, Gonzalez's article seemed to be another avenue to determining a purpose to the universe. True or false?

4. Video Chapters 9-10 (35:53-47:18)

Basic Questions:

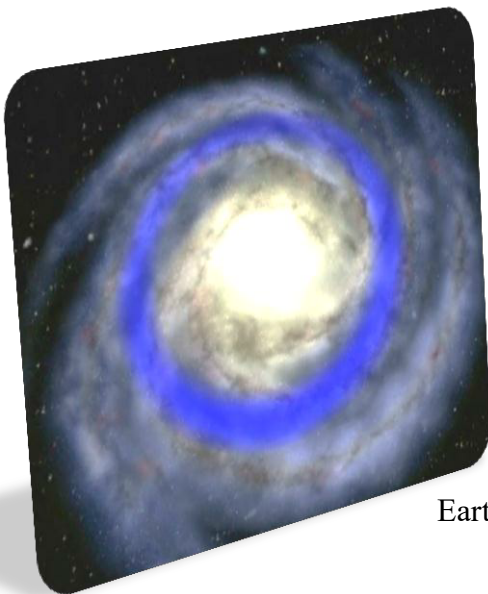
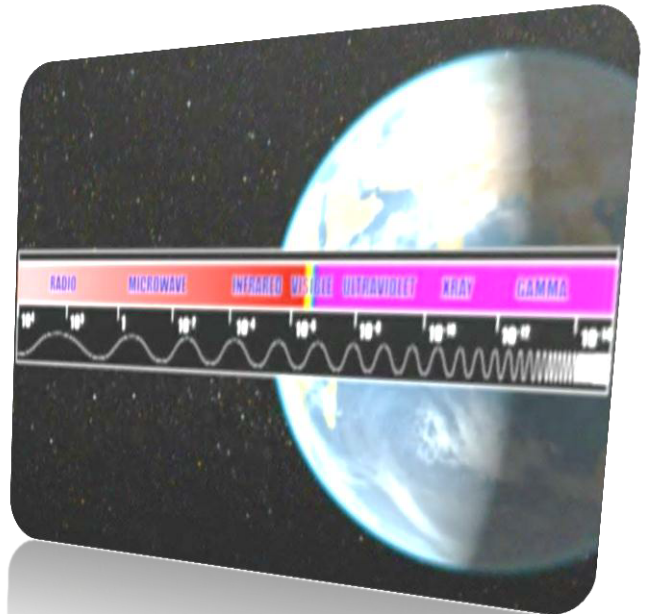
4.1. There are about (circle one) 50 / 60 / 70 planets and moons in our solar system, with only (circle one) 5 / 6 / 7 having a thick atmosphere.

4.2. Unlike the other planets or moons with an atmosphere, the Earth's is _____, which allows us to peer out beyond our world and also allows the type of light necessary for life processes.

4.3. Of the entire electromagnetic spectrum naturally produced in the universe, only about one percent (1%) is useful for life. True or false?

4.4. In addition to examining the Earth's location in our solar system, Gonzalez also examined the location of our solar system in our _____.

4.5. Complex life could benefit from being in or near the galactic center because of the abundance of light provided by all the stars to illuminate things. True or false?



4.6. What is missing or lacking for locations far away from the galactic center or arms?

4.7. The “just right” area for life in the galaxy is called the _____.

4.8. Unlike many other parameters, the type of galaxy is not important to make discoveries. True or false?

4.9. What key aspects of discovery are provided by the Earth's location in the galaxy?

5. Video Chapter 11 (47:19-58:10)

Basic Questions:

5.1. What is the quote by Albert Einstein?

5.2. What does theoretical physicist and cosmologist Paul Davies think of the apparent correlation between life and making discoveries?



5.3. If the fundamental force of gravity was adjusted slightly, simple life forms would not be possible, but complex life could be possible because their technology allows them to deal with the forces of nature. True or false?

5.4. Chemistry is possible based, in part, on the existence of the strong nuclear force and the electromagnetic force. True or false?

5.5. The number of pieces of paper required to write out the fundamental physical laws would take is/are (circle one) one / tens / hundreds / thousands.

5.6. Based on the previous question's odd result, it suggests that the universe is supposed to be _____.

5.7. There is an immense and immediate survival benefit provided by being able to make sense of the fine details of the universe, which fits with Darwinian evolutionary theory. True or false?

5.8. Based on the apparent overlap of factors required for making discoveries and requirements for life, what 'catch phrase' does Richards's suggest this is indicative of?

