**Directions:** Answer the questions as you watch episode 7 of Cosmos: A Spacetime Odyssey

1.  What is happening to the Earth at its very beginnings?

2. What date did James Ussher give the beginning of the Earth based on the Bible?

3.  What type of life was dominant in the Precambrian Time?

4.  Why is figuring out the age of the Earth by counting the layers of rock not accurate?

5. Between what planets do we find the leftover “brick and mortar” from making the Earth?

6. What stable element does Uranium break down into after about 10 transformations?

7.  What happened to the rocks that were around at the birth of the Earth?

8. On what famous project did Clare Patterson and his wife work together?

9.  What kind of crystals did Harrison Brown ask Clare Patterson to work on?

10. What conclusion did Clare Patterson come to about why his repeated experiments gave wildly different data about lead?

11. What did Clare Patterson need to build before he could completely rule out lead contamination in his sample?

12. Who are two of the scientists Clare Patterson thanks as he waits for his sample to finish in the spectrometer?

13. What was the true age of the Earth found to be and who was the first person he told?

14. Who is the Roman god of lead?

15. What modern holiday did Saturnalia turn into?

16. What is the “bad” side of the god Saturn similar to?

17. Why is lead poisonous to humans?

18. Why did Thomas Midgley and Charles Kettering add lead to gasoline?

19. Why was Dr. Kehoe hired by GM?

20. What group gave Clare Patterson the grant to study the amount of lead in the ocean?

21. How did Patterson conclude the oceans were being contaminated by leaded gasoline?

22. When the gas companies stopped funding Patterson’s research, who stepped in to help?

23. What did Patterson find in the polar ice?

24. How long did Patterson have to fight before lead was banned from gasoline?

25. How much did lead poisoning in children drop after lead was banned?