CHAPTER 4

Pgs. 65-71

1. Prior to 1939 what was the common view of the origin of elements?

2. What discovery in 1939 began to dissolve the above theory?

3. What is technetium and where does it exit?

4. What is B2FH?

5. When do things really start shaking?

6. There is an interesting metaphor at the bottom of page 66 that explain the change in star matter. What is the metaphor?

7. When stars die what do they create?

8. B2FH traces various fusion reactions and explains the recipe for producing everything up to iron; it's nothing less than _____.

9. Once iron is spotted in a star, it's safe to assume

10. Iron is the final _____

11. According to B2FH where do the heaviest elements, twenty-seven through ninety-two, _____through_____ come from?

12. Explain in a short paragraph how elements develop in a supernova.

13. What happened 4.6 billion years ago?

14. How were the giant planets like Jupiter formed?

8

15. Why is Uranus misnamed?

16. What is the Shoemaker-Levy 9 comet?

17. What effect did the Hale-Bopp comet have on Earth?

18. What did scientists hope was at the center of Jupiter's core?

9

19. What are contained in the black oceans of Jupiter?

20. Why do elements have strange lives on Jupiter?

21. What is the giant red eye?

10

22. What is the basic elemental composition of real stars?

23. Why is there an abundance of helium and neon toward the center of Jupiter?

CH

Pg

1. What are the solar system?

2. Define <u>coalesce.</u>

3. How did healthy deposits

4. What is at the core of each

5. How do the planets in ou around other stars?

6. Each solar system ha _____.

7. The number below each e its _____ . _____ plus

8. How have scientists deduc

9. Who help fix the date of t and uranium?

10. What two isotopes does ur

11. What would Patterson hav

CHAPTER 4

Pgs. 72-80

1. What are the solar system's rocky planets?

2. Define coalesce.

3. How did healthy deposits of all elements form on the planets?

4. What is at the core of each planet?

5. How do the planets in our solar system differ from the planets around other stars?

6. Each solar system has a unique _____ _____.

7. The number below each element on the periodic table indicates its _____ _____, the number of _____ plus the number of _____.

8. How have scientists deduced the earth was formed?

9. Who help fix the date of the planet through experiments on lead and uranium?

10. What two isotopes does uranium break down?

11. What would Patterson have to do to go back to the year zero?

12. What are preserved hunks of primordial earth?

13. Meteors are solid _____.

14. Where did Patterson get meteor bits to conduct his experiments?

15. Why did Pb, lead ruin Patterson's early attempts to analyze meteors?

16. How did he treat lead to keep out of his space rocks?

17. What about the lead from your hair?

18. What was the metaphor Patterson used for humanity?

19. What is the result of Patterson becoming an activist?

20. Venus, Mercury, and Mars were formed simultaneously. What does that mean?

21. What were Luis and Walter Alvarez's discovery?

22. Iridium is a siderophile. What is that and where is it found?

23. Besides dinosaurs what else was destroyed 65 million years ago?

24. When was the asteroid-iridium extinction theory seemingly proved?

25. Did all dinosaurs die out at the same time? Explain.

26. What is the chance of an asteroid passing close to the sun hitting our planet?

27. What is the theory about the sun and a companion star?

28. What is the relationship between Nemesis and rhenium?

29. What simile was used to describe critics on the Nemisis theory? (bottom of pg. 78)

30. What is the nearest star an

31. What is the counter argun

32. What is an Oort cloud?

33. What does Eric Scerri wri

34. What does Carl Sagan say

35. Besides genius what does I inspire?

30. What is the nearest star and how far is it from earth?

31. What is the counter argument against Copernican revolution?

32. What is an Oort cloud?

33. What does Eric Scerri write?

34. What does Carl Sagan say about life?

35. Besides genius what does higher concentrations of rare elements inspire?