This is a MANDATORY reading assignment designed to accompany the book “The Disappearing Spoon: And other True Tales of Madness, Love, and History of the World from the Periodic Table of the Elements.” This book can be found in some of our local public libraries or can be purchased at some of our local bookstores or online websites such as amazon.com or barnesandnoble.com. Another great site to find your books is at www.bigwords.com.


Please answer the following questions and indicate in which page(s) of the book you found the answer in order to receive full credit. This assignment is worth 100 points. I highly recommend that you start reading this book and answer the questions as soon as possible.

1. According to medieval alchemists, what substance was considered the most potent and poetic substance in the universe?

2. What do the fumes of mercury do to the human body?

3. According to the periodic table, which are the two elements that are liquids at room temperature?

4. What did Nebuchadnezzar, king of Babylon use to paint his palace walls yellow?

5. What did Egyptian women use the element antimony for?

6. What smell does cyanide gas produce?
7. How many amino acids make up the tobacco mosaic virus protein?

8. What disease, which resembles pneumonia, is caused when inhaling asbestos or silicon dioxide?

9. What chemical element were the 1st transistors made out of?

10. What is the best antidote for arsenic poisoning?

11. What was Robert Bunsen’s greatest invention (hint: it was not the Bunsen Burner)?

12. What is the name of the scientist who discovered that red blood cells transport oxygen throughout the body by binding it to hemoglobin?

13. What is Dmitri Mendeleev’s greatest achievement?

14. At what temperature does the chemical element Gallium melt at?

15. What are the secret ingredients in Chinese porcelain?

16. How many kinds of lead exist on earth and what are their respective atomic weights?

17. According to astrophysicist Carl Sagan, what are we all?

18. What is the name of the chemical element that makes about 80% of our air atmosphere?
19. The element chlorine is a very toxic gas which can attack the human cells if inhaled. According to the book, what does chlorine do to the body?

20. What chemical element was used by 14th century Japanese sword makers to create samurai swords whose blades never dulled or cracked?

21. What chemical element did Portugal provide Nazi Germany with?

22. Tantalum and Niobium, 2 elements found in the Congo, Africa are used in the manufacturing of what product, which most of us have in our pockets right now?

23. What did James Chadwick discover in 1932?

24. What is the danger of Cobalt-60?

25. How did Victor Ninov, Bulgarian scientist, commit scientific fraud?

26. What is the name of the scientist who figured out why snowflakes are 6-sided and why sickle cell anemia kills people?

27. Which chemical element was mined at the Kamioka mountains in Japan in 710 D, which was responsible for the itai-itai disease?
28. Which element is considered the deadliest element on the periodic table (known as poisoner’s poison)?

29. Why is Bismuth probably the most misplaced element on the periodic table?

30. What chemical element is used in smoke detectors? Briefly describe how this element works in smoke detectors.

31. What happens to bacteria, fungi, or algae when they come in contact with copper?

32. Why is the Vanadium water from Mt. Fuji sold online as a cure for diabetes?

33. What is argyria and what chemical element causes this condition?

34. Louis Pasteur made an interesting discovery about the property of biomolecules, which he referred to as “handedness”. Explain what did means in terms of living matter?

35. What drug created by Gerhard Domagk saved the life of Franklin Delano Roosevelt Jr. in 1936?
36. What nutrient do all cells need to replicate DNA and reproduce, and without this nutrient, bacterial cells cannot replicate and spread?

37. What is L-dopa (levo-dihydroxyphenylalanine) used for?

38. Why is titanium the perfect candidate for prosthetics?

39. What element tastes just like sugar but in large doses is quite toxic and can scar the lungs, causing pneumonitis?

40. Why did Mahatma Gandhi hate Iodine?

41. Why has Polonium been linked to lung cancer from cigarettes?

42. What is *aqua regia* and why did it fascinate alchemists?

43. The mixture of tin and copper makes what metal? The mixture of zinc and copper forms what metal?

44. What is Iron Pyrite (Iron Disulfide) most commonly known as?
45. What is Charles Hall famous for?

46. What was the tip of the Parker 51, the world’s most wanted pen, made out of?

47. Which chemical element was used as the first mood stabilizer for bipolar/manic-depressive people in the United States in 1967?

48. What element is known as “animal meth” which causes an addiction in cattle that consume this element while grazing?

49. Wilhelm Röntgen is credited for discovering what?

50. At what temperature does Tin turn into protean? How did this reaction affect the French Army in the winter of 1812?

51. What do the Buckingham Palace, The Tower of London, and Westminster Abbey have in common?

52. What causes diet coke to explode when you drop mentos into it?
53. What is the significance of the fine structure constant known as \( \alpha \) constant, which has a value of \( \frac{1}{137.0359} \)?

54. According to the book, what is the most important organic chemical on earth?

55. Deposits of magnesium salts on a bare, alien planet is a possibility of what?

56. Which is the scarcest natural element (only about 1 ounce) on the periodic table?