

Name \_\_\_\_\_

**AP Biology Viral Genetics: *Unintelligent Design*  
Scientific American, March 15, 2006**

- 1. What is the basic anatomy of a virus?**
- 2. How do viruses reproduce?**
- 3. Describe Martinus Beijernick's experiment.**
- 4. Who isolated the Tobacco Mosaic Virus and received the Nobel Prize for his work?**
- 5. Why were viruses considered to be evolutionary latecomers?**
- 6. What are we finding out about the vast majority of viruses?**
- 7. Why is the new virus called the Mimivirus? Who isolated it?**
- 8. What did the London Telegraph say might need to happen based on the discovery of Mimi?**
- 9. What virus phylum evidence has Mimi uncovered?**
- 10. What is the radical change about life's origins?**
- 11. With the discovery of Mimi, what are scientists now hypothesizing about the "story" of how life arose?**

- 12. Why did La Scola originally think that Mimi could not be a virus?**
- 13. Who does Mimi infect? What is it thought to have once done?**
- 14. Describe the eclipse phase of a virus.**
- 15. List three things that make Mimi unique in the viral world.**
- 16. How many genes does the typical virus have? \_\_\_How many does Mimi have? \_\_\_**
- 17. Describe the three strategies that viruses use to get to the cellular machinery needed for reproduction.**
- 18. What are the advantages AND disadvantages of RNA viral methods?**
- 19. What are two things that did not fit into the “neat categorizations and categorizations that we developed about viruses?”**
- 20. What two viral paradigms did Mimi render questionable?**
- 21. What are the implications of the conservation of the capsid producing genes in all viruses that infect organism from all three domains?**
- 22. What does Mimi’s outsize complement of genes suggest to many scientists?**

**23. What does Mimi allow us to no longer do?**

**24. What has allowed scientists to develop a fuller concept of viruses?**

**25. What culminated in the “mother cell”?**

**26. What has Mimi and viruses like her allowed molecular biologist to do for the first time?**

**27. What did lack of a nucleus cause?**

**28. Describe the four things that Mimi and eukaryotic cell nucleus' share.**

**29. Who is LUCA?**

**30. What does Forterre believe the early Earth contained?**

**31. Why does the “concept of viruses as the primordial soup’s first built-in stirrers” make sense to virologists?**

**32. What concept is no longer laughed at by biologists?**

**33. Why are viruses the major players in speciation?**