Astronomy Study Guide:

1. Describe geocentric and heliocentric models of the solar system.
2. Describe the solar system models of Aristotle, Aristarchus, Ptolemy, Copernicus and Kepler.
3. Describe the contributions of Galileo to our knowledge of the solar system
4. Why was the geocentric model widely accepted for well over 1000 years?
5. How did the geocentric model of Ptolemy account for the retrograde motion of some of the planets?
6. How is parallax used to estimate the distance to some of the stars?
7. Describe how the solar system was formed. Include how the earth ended up with a large moon.
8. What causes the seasons on our planet?
9. What are the dates of the solstices and equinoxes?
10. Draw a complete, labeled diagram that shows the position of the earth’s axis during one complete revolution around the sun.
11. What are stars made of? How do we know this?
12. How do stars produce heat and light?
13. Describe the relationship between temperature and light in a star.
14. Describe the life cycle of both large and smaller stars.
15. What is the size of the sun relative to other stars?
16. What is the eventual fate of our solar system?
17. How are black holes formed?
18. Which stars end up being black holes?
19. Identify and describe the main regions of a black hole.
20. What would happen to a space ship as it approached a black hole?
21. Where are black holes most likely to be found?
22. How do we know black holes are out there?
23. What is the most commonly accepted theory about the origin of the universe?
24. Describe older theories of the origin of the universe. (Steady state, etc.)
25. What are two theories about the eventual fate of the universe?
26. What is the evidence for the Big Bang?
27. Describe what an AU and a light year are, and be able to make calculations using these units.
28. Describe how rockets and satellites work, and what they’re used for.
29. Describe what humans would need in order to survive a trip into deep space.
30. Briefly describe the planets of the solar system.