Study Question for Astronomy
The Planets and Their Moons

1. Which planets are terrestrial planets?
2. Which planet is nearest in size to the Earth?
3. Which planet is probably the smallest?
4. Which planet is the first (counting outward from the sun) to have a moon?
5. The surface of which planet has features which appear to be dry river beds?
6. Which planet is surpassed only by our sun and moon in brightness as observed from the Earth?
7. Which is the largest terrestrial planet?
8. Which planet looks most like the Earth's moon?
9. Which planet has a large rift valley which is several times bigger than the Grand Canyon?
10. Which planet has the shortest solar year?
11. On which planet is the solar day nearly equal to that on Earth?
12. On which planet are the surface temperatures highest? Why?
13. Which terrestrial planet has no atmosphere? Why? (There are two reasons!)
14. Which planet was once thought to be inhabited because there were channels observed on its surface?
15. The atmosphere of what planet is composed predominately of carbon dioxide, but the atmospheric pressure is only about 1% of that on Earth?
16. Which terrestrial planet exhibits retrograde rotation?
17. Which of the terrestrial planets has the most dense atmosphere?
18. Which planet has planet-wide dust storms which may last months?
19. Which terrestrial planet is continually covered with clouds?
20. Which planet is reddish in color?
21. Which planet appears to have polar caps, faint clouds, seasons twice as long as earth's?
22. Which of the terrestrial planets is very difficult to observe from the earth? Why?
23. Which planet has markings which were at one time interpreted to be canals?
24. The period of which planet's revolution about the sun is greatest?
25. Which planet is the largest in the solar system?
26. Which Jovian planet exhibits retrograde rotation?
27. Which planet emits twice the energy which is incident upon it from the sun?
28. Which planet exhibits a large red spot on the visible surface? What is it?
29. Which planet has prominent rings observable from the earth?
30. Which planet has the most eccentric orbit and that orbit is inclined at the largest angle from the ecliptic?
31. Which planet was not discovered until 1930?
32. Which planets are known to have systems of rings?
33. For which planets are the periods of revolution greater than one year?
34. Which planets are never seen at midnight?
35. For which planets are the periods of revolution less than one earth year?
36. Which planet did Galileo observe to exhibit phases like the moon?
37. Of the two planets closest to the sun, Mercury and Venus, Venus has the higher surface temperature. Why?

38. Ground-based observations of Mars indicate a seasonal variation in the size of the polar ice caps. What causes this seasonal variation?

39. What is the most probable explanation for the large red spot visible on the planet Jupiter?

40. Do all planets revolve in the same direction (i.e., clockwise or counter-clockwise)?

41. What is the albedo of the surface of a planet?

42. What moon of Jupiter presently exhibits volcanic activity?

43. Do all planets rotate in the same direction?

44. What is the rotation speed of Jupiter on its axis?

45. How do we obtain most of our knowledge about the interior of the earth (and also of the moon?)

46. Why does the moon lack an atmosphere?

47. What is the probable origin of most of the craters on the moon?

48. Which planet has no moon?

49. Why was Mercury not expected to have an appreciable magnetic field?

50. What are the two major geological areas of Mars?

51. What is the Cassini division?

52. Do all the moons of Jupiter revolve around Jupiter in the same direction?

53. What is one of the major reasons that the surface temperature on the moon varies so greatly between the "day" and "night" periods on the moon?

54. Does the moon have an appreciable magnetic field?

55. Are all parts of the surface of the moon essentially alike in topography?

56. Do all planets have an atmosphere?

57. Do any planetary satellites (moons) have an appreciable, permanent atmosphere?

58. What causes the northern and southern lights on Earth?

59. The surface temperature of Venus is lower than it would be if Venus had no atmosphere. (a) True (b) False

60. Many of the features on the surface of Mars appear to have been made by running water, but no water has ever been found on the surface of Mars. (a) True (b) False

61. Is the surface of Venus covered with craters? Why or why not?