

## **The Universe**

### **Total Eclipse**

- 1. What did ancient civilizations do in response to eclipses?**
- 2. Why did the techniques they used always work?**
- 3. Babylonians used the “saros cycle” to determine eclipses. What is it?**
- 4. How often will someone on Earth see a total eclipse of the sun?**
- 5. When is the next eclipse going to be visible from the United States?**
- 6. How long will this eclipse last for?**
- 7. This eclipse will have a path of totality of \_\_\_\_\_ miles wide.**
- 8. How much can the temperature drop during a total eclipse?**
- 9. What must occur for an eclipse to happen?**
- 10. What is the penumbra?**
- 11. What is the umbra?**
- 12. If you are seeing a partial eclipse are you in the penumbra or the umbra?**
- 13. An eclipse occurs whenever one object passes in front of another object blocking its \_\_\_\_\_.**
- 14. Why don't Mercury or Venus have eclipses?**
- 15. There are how many known moons orbiting the planets in our solar system?**
- 16. Why don't many total solar eclipses occur on other planets?**
- 17. Describe how, even though our moon is so much smaller than the sun it still covers it to produce a total eclipse.**
- 18. What is the alignment of the Earth, moon and sun during a lunar eclipse?**
- 19. The shadow of \_\_\_\_\_ covers \_\_\_\_\_.**
- 20. During a total lunar eclipse, the moon passes \_\_\_\_\_.**
- 21. Who on Earth can see the lunar eclipse?**
- 22. Why does the color of the moon turn red-orange during an eclipse?**
- 23. What part of the sun is visible during a total solar eclipse which is normally not visible?**
- 24. What is a coronagraph?**
- 25. When was the coronagraph invented and what was it initially used on?**
- 26. What are SOHO and Stereo Space Craft?**

- 27. In 1971 coronal mass ejections were seen on the sun. Give some information about what CMEs are.**
- 28. In 2003 there were very intense CMEs. What were some of the effects?**
- 29. When are we at the greatest danger from CMEs?**
- 30. In 1859 a super CME occurred. Describe some of the effects on Earth.**
- 31. If one occurred today, how long would it take for a full recovery?**
- 32. How often do scientists believe a super CME will occur?**
- 33. The moon passing in front of the sun from a vantage point further in space is called a \_\_\_\_\_.**
- 34. What is the Kepler Space Telescope looking for?**
- 35. How does the Kepler telescope accomplish it's task?**
- 36. If a planet is in the habitable zone it will have a transient that will last \_\_\_\_\_ and occur every \_\_\_\_\_.**
- 37. In June 2010, how many Earth like planets candidates were there?**