

#41: The Sun, the Milky Way, and the Universe

name: _____

Use the textbook (Glencoe Earth Science) for this assignment.

1. What is the solar wind? (p. 807)

2. What is the most “obvious feature of “solar activity”?”

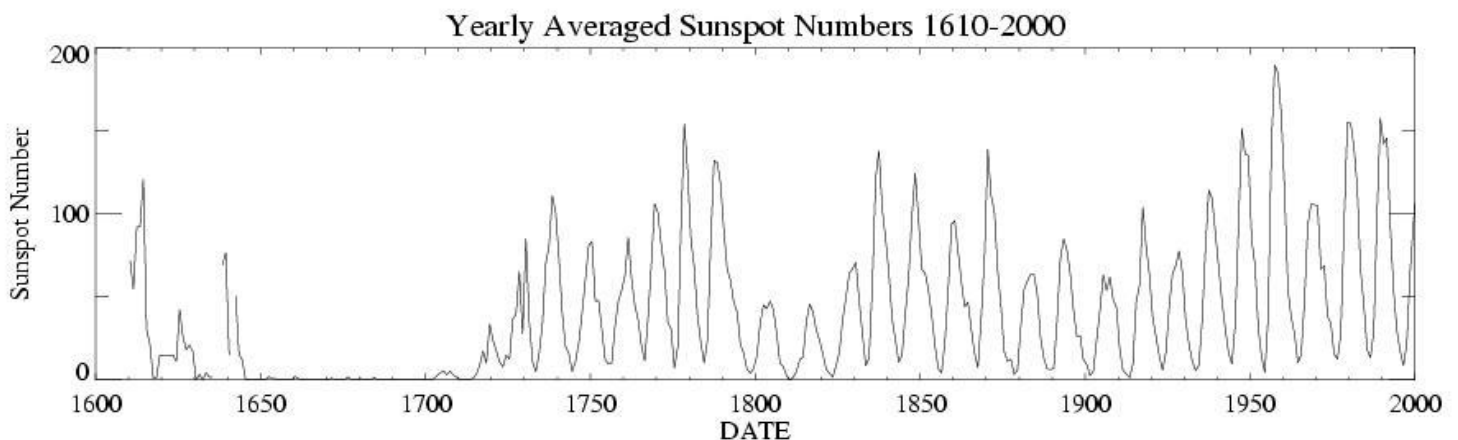
3. Solar activity (including sunspots) increases and decreases in what is called “the solar activity cycle” (a.k.a. “solar cycle”). How many years long is this cycle?

4. The last solar minimum was in 2009 and the next maximum is expected around 2013. According to the graph below, approximately how many sunspots were there in each of the following years?

1950:

1902:

1750:



5. What was unusual about sunspots from 1650 to 1715?

6. What is a “binary star”? (p. 814)

7. A black hole is not a “hole”, but rather a sphere. Why is it called a “black hole”?

8. When our Sun dies (several billion years from now), it will not end up as a black hole as some other stars will. Explain why. (last paragraph p. 825)
9. What is the Milky Way, and how many stars are in it?
10. What is a “light year”? (p. 815)
11. Look at the diagram on bottom of p. 835. On the diagram, “ly” stands for light year. If you could travel the speed of light (186,000 miles/second), how long would it take you to get from the Sun to the center of the Milky Way?
12. Astronomers believe that there is a “supermassive” black hole at the center of spiral galaxies. The one at the center of our our Milky Way galaxy is called Sagittarius A. Why does it glow?
13. Each galaxy is made of billions of stars. How many galaxies are there in the Universe?
14. In 1929, Edwin Hubble discovered that the (clusters of) galaxies are all moving away from each other. In other words, the Universe is _____ as though there were some sort of explosive event in the beginning. This suggests that the Universe had a _____ .
(p. 847)
15. What is the “Big Bang Theory”?