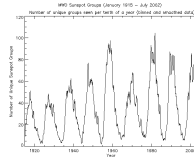


Worksheet:
Stormy Sunspots



Name _____
Date _____
Period _____ Table _____

STORMY SUNSPOTS

Background:

Sunspots look like small, dark areas on the sun’s surface. But in fact, they can be as large as Earth. Sunspots are areas of gas on the sun that are cooler than the gases around them. Cooler gases don’t give off as much light as hotter gases, which is why sunspots look darker than the rest of the photosphere. The number of sunspots on the sun varies over a period of time. Some scientists believe that sunspot activity influences weather on Earth. In this activity you are going to graph known data observations and compare your graphed data to Earth’s “Magnetic Storm Days” (below right).

Problem:

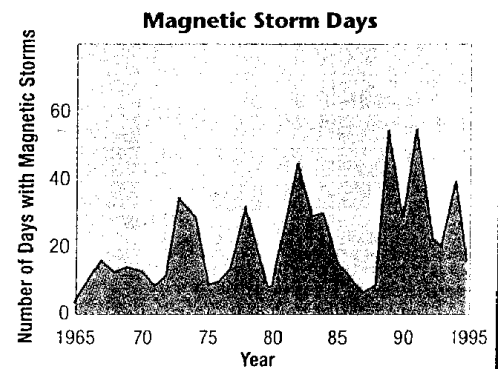
How are magnetic storms on Earth related to sunspots?

Materials:

Graph paper pencil straightedge

Data Chart: Sunspot Activity

Year	Sunspot Number	Year	Sunspot Number
1967	93.8	1983	66.6
1969	105.0	1985	17.9
1971	66.6	1987	29.4
1973	38.0	1989	157.6
1975	15.5	1991	145.7
1977	27.5	1993	54.6
1979	155.4	1995	17.5
1981	140.4	1997	23.4



Procedure:

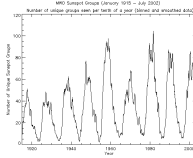
1. Use the data in the table to make a line graph of sunspot activity between 1967 and 1997.
2. On the graph, label the x-axis “Year.” Use a scale with 2-year intervals, from 1967 to 1997.
3. Label the Y-axis “Sunspot Number.” Use a scale of 0 through 160 in intervals of 10.
4. Graph a point for the Sunspot Number of each year.
5. Complete your graph by drawing line to connect the points.

Analyze and Conclude:

1. Based on your graph, which years had the highest Sunspot Number? _____
The lowest Sunspot Number? _____
2. How often does the cycle of maximum and minimum activity repeat? _____
3. When was the most recent maximum sunspot activity? _____
4. Compare your sunspot graph with the magnetic storms graph. What relationship can you infer between period of high sunspot activity and magnetic storms? Explain.

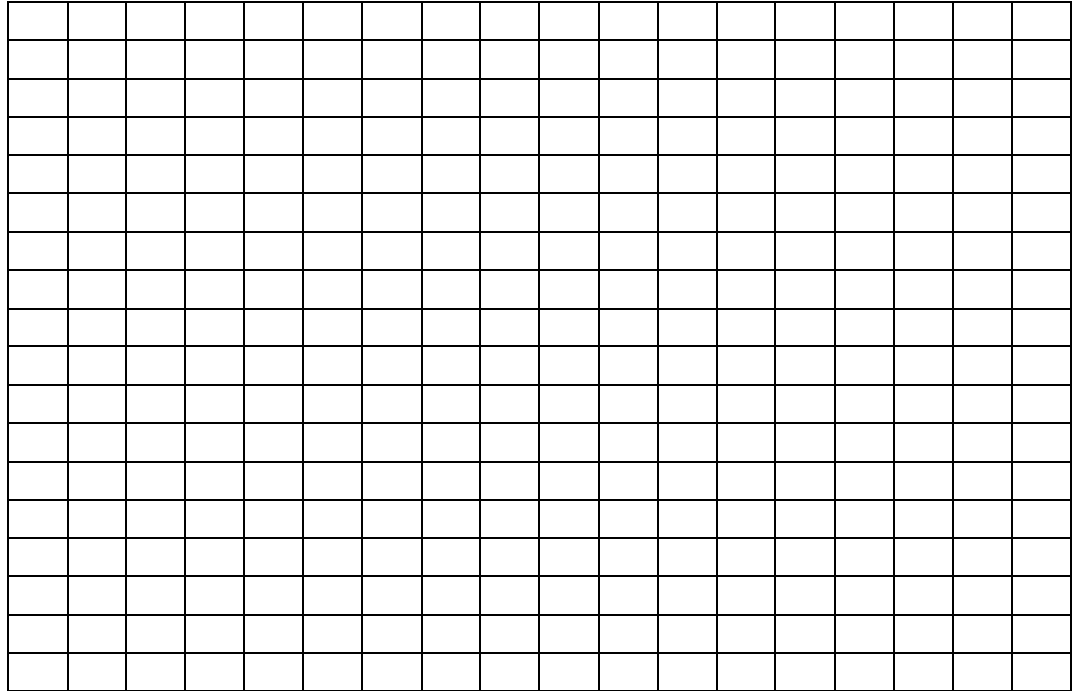
5. During which years do you think electrical disturbances on Earth were most common? _____

Worksheet:
Stormy Sunspots



Name _____
Date _____
Period _____ Table _____

STORMY SUNSPOTS



Analyze and Conclude:

- Based on your graph, which years had the highest Sunspot Number? _____
The lowest Sunspot Number? _____
- How often does the cycle of maximum and minimum activity repeat? _____
- When was the most recent maximum sunspot activity? _____
- Compare your sunspot graph with the magnetic storms graph. What relationship can you infer between period of high sunspot activity and magnetic storms? Explain.

- During which years do you think electrical disturbances on Earth were most common?
