



Name: \_\_\_\_\_

Date: \_\_\_\_\_ Section: \_\_\_\_\_ HR: \_\_\_\_\_

## CHAPTER 2

## REAL-WORLD LAB

### *You and Your Environment*

## Stormy Sunspots

During which years were electrical disturbances on Earth most common? In this lab, you will consider the relationship between sunspot activity and magnetic storms on Earth.

◆ **Problem** How are magnetic storms on Earth related to sunspot activity?

◆ **Skills Focus** graphing, interpreting data

◆ **Materials**

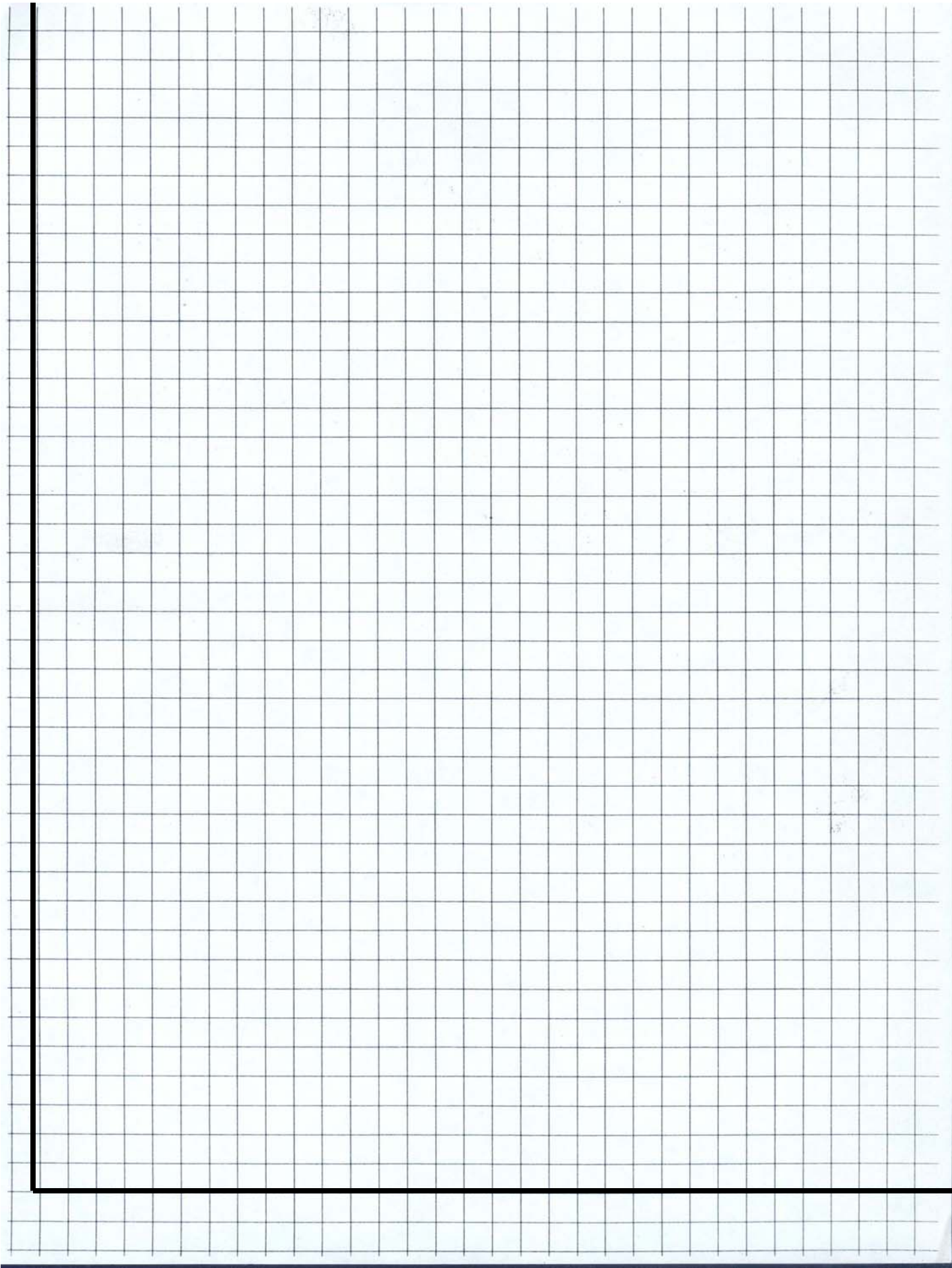
graph paper pencil straightedge

◆ **Procedure**

1. Use the data in the table to plot 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 “Average Number of Sunspots.” Use a scale of 0 through 160 in intervals of 10.
4. Graph a point for the average number of sunspots for each year.

Sunspots			
Year	Average Number of Sunspots	Year	Average Number of Sunspots
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

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## Analyze & Conclude

1. Based on your graph, which years had the highest average number of sunspots? The lowest average number of sunspots?

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2. How often does the cycle of maximum and minimum activity repeat?

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3. When was the latest maximum sunspot activity? The latest minimum sunspot activity?

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4. Compare your sunspot graph with the magnetic storms graph. What relationship can you infer between periods of high sunspot activity and magnetic storms? Explain.

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

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**More To Explore (Extra Credit)**

Using the pattern of sunspot activity you found, predict the number of peaks you would expect in the next 30 years. Around which years would you expect the peaks to occur?

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