

Name_____



SUNSPOT ANALYSIS

INTRODUCTION:

Photographs of the sun show dark areas on its surface. These spots are believed to be due to solar storms, areas of cooler gases on the surface. The number and pattern of these spots change with time. When the data collected over many years are graphed, a pattern emerges. This picture-like representation makes it easier to see relationships that are not obvious from a column of numbers.

OBJECTIVE:

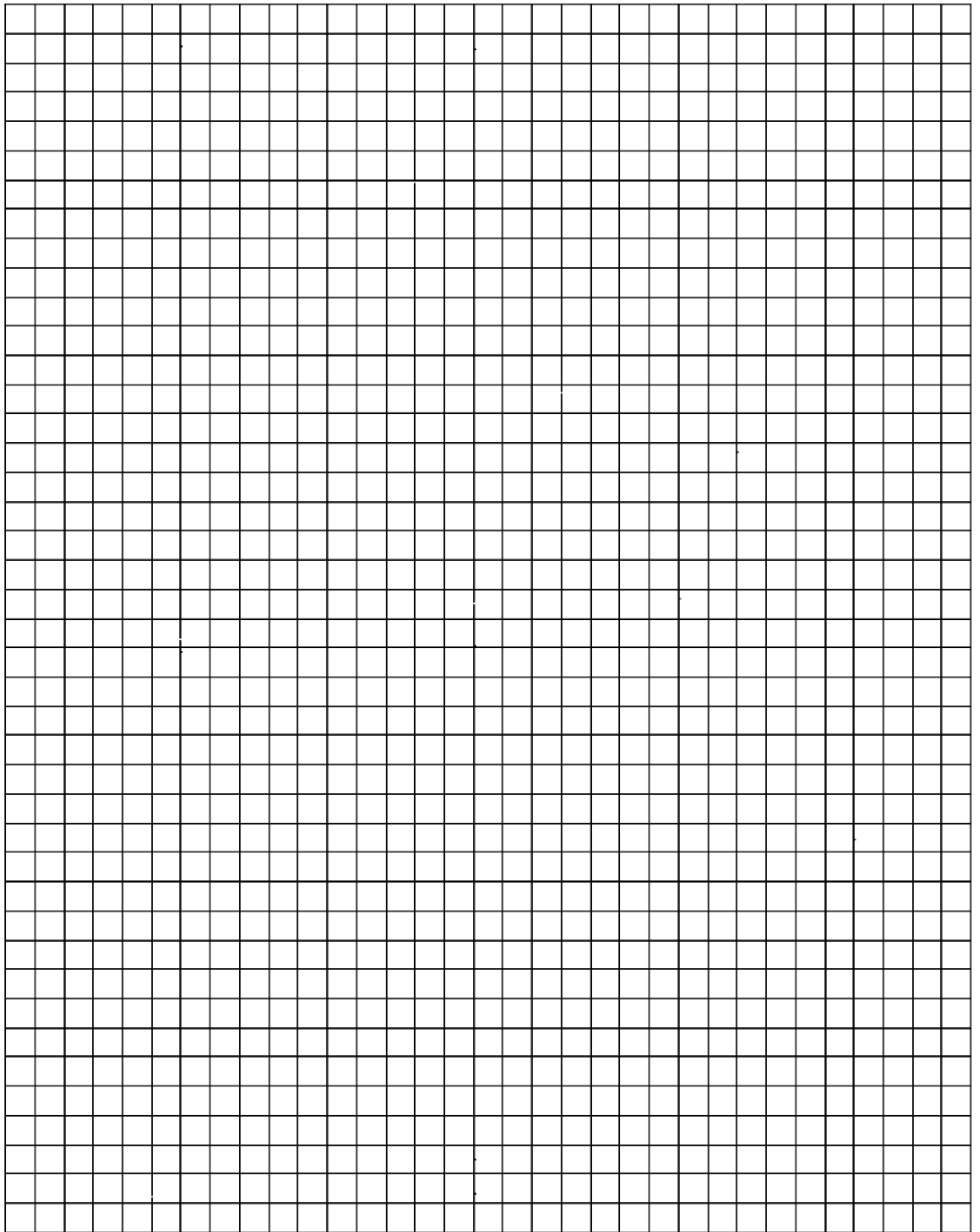
You will see how graphing a natural phenomenon can aid in predicting future events.

PROCEDURE:

1. Using the data given, graph the number of sunspots in the years from 1955 to 2004.
 - a. The year goes on the x axis (label this axis). Count by twos (start at 1955, then 1957, 1959, etc)
 - b. The number of sunspots goes on the y axis (label this axis). Count by fives (5,10, 15, etc)
2. Be sure to completely label each graph axis AND add a proper title at the top (hint: see #1).

AVERAGE ANNUAL SUNSPOT NUMBERS

YEAR	NUMBER OF SUNSPOTS	YEAR	NUMBER OF SUNSPOTS
1955	38	1980	146
1956	141	1981	134
1957	176	1982	116
1958	185	1983	72
1959	158	1984	46
1960	112	1985	18
1961	54	1986	13
1962	38	1987	29
1963	28	1988	50
1964	10	1989	145
1965	15	1990	155
1966	47	1991	150
1967	94	1992	140
1968	106	1993	54
1969	105	1994	36
1970	105	1995	19
1971	67	1996	9
1972	69	1997	22
1973	38	1998	65
1974	34	1999	94
1975	16	2000	120
1976	13	2001	111
1977	27	2002	104
1978	93	2003	64
1979	155	2004	41



CONCLUSION QUESTIONS:

1. What type of pattern is displayed on this graph? _____
2. On this graph, which quantity is the dependent variable?
3. Each peak on the graph represents a sunspot maximum. In which years do these maxima occur?
4. According to the data graphed, during which year did the last maximum occur?
5. What is the average time span (to the nearest tenth of a year) between maxima? _____

6. What is the average time span (to the nearest tenth of a year) between minima?

7. What is the average time of one complete sunspot cycle?
8. Predict when the next maximum will occur after the last one plotted on your graph. Use your answers to questions 4 and 5 to assist you on this question.
9. How does graphing show us that some natural phenomena may be predictable?