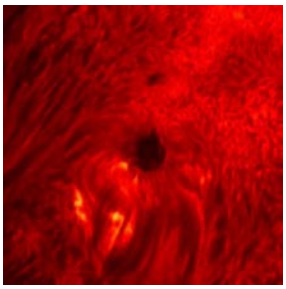
Name:

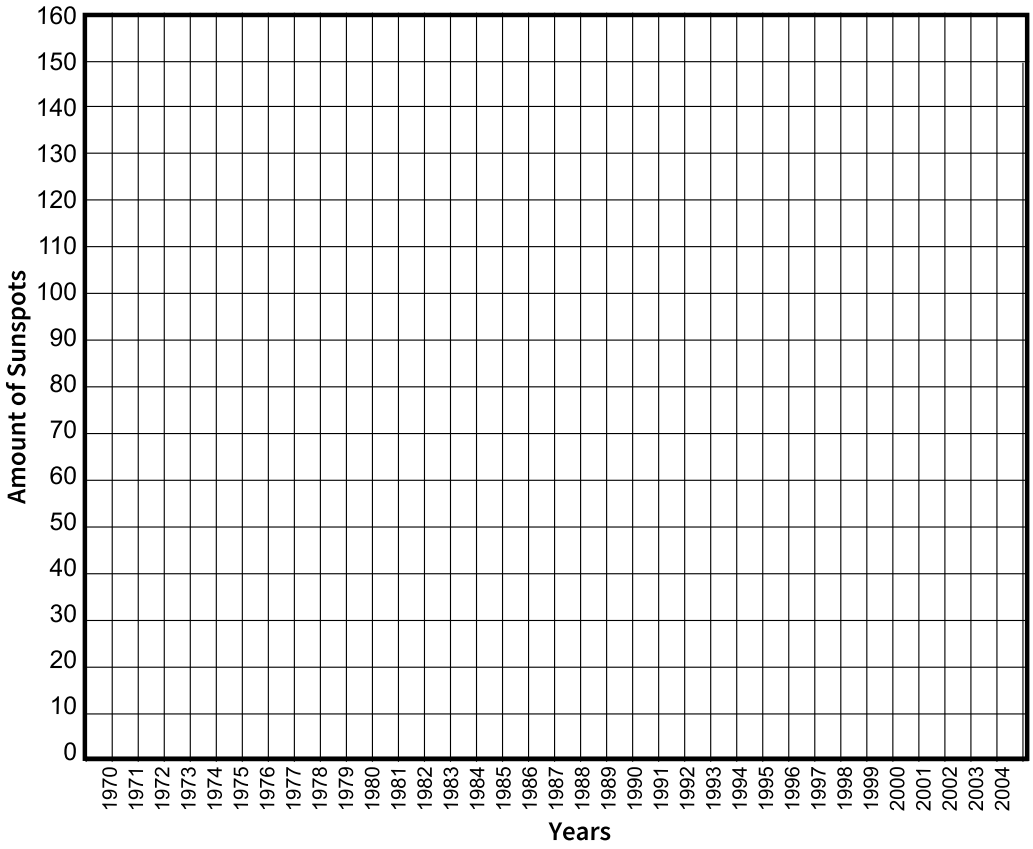
Sunspots and Climate

Student Pages



Make a graph of the number of sunspots over time:

- The data below indicate the average number of sunspots for each year. Use the data to make a graph of average number of sunspots as they change over time.
- Plot sunspot number against time by making a dot on your graph wherever the year and appropriate sunspot number intersect.
- Connect the points you've plotted with a line.



YEAR	SUNSPOTS
1970	109
1971	74
1972	72
1973	39
1974	34
1975	15
1976	14
1977	30
1978	103
1979	156
1980	141
1981	141
1982	116
1983	72
1984	44
1985	17
1986	12
1987	28
1988	89
1989	148
1990	149
1991	146
1992	96
1993	54
1994	36
1995	19
1996	9
1997	22
1998	65
1999	94
2000	120
2001	111
2002	104
2003	64
2004	41

Answer these questions!

1. *How many years are there between each time of abundant sunspots and each time of fewest sunspots?* (In other words, how often does the pattern repeat?)

2. Make predictions! *Will there be many or few sunspots during:*
   - *the year you graduate from high school?* _____
   - *the year you were born?* _____
   - *the year you turn 21 years old?* _____

UPDATED: SEPT 2022

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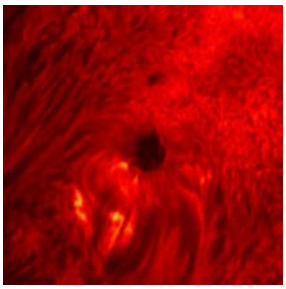
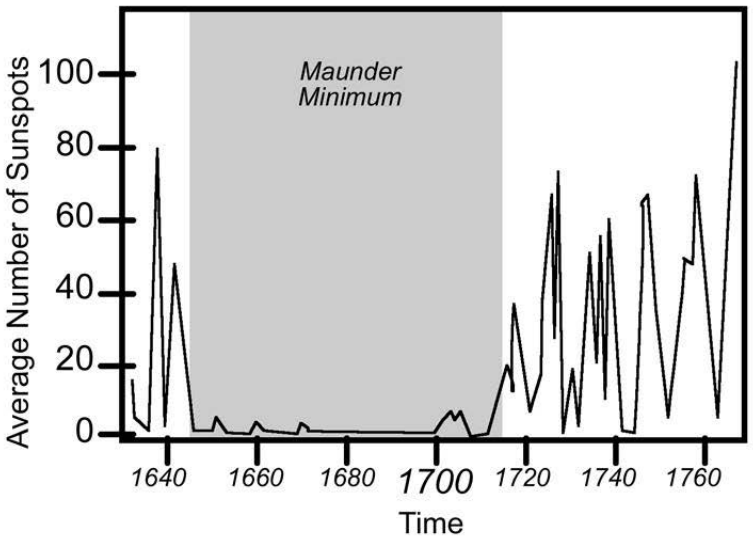


Directions:

- Examine the graph and answer the questions below.
- To begin, identify the axes. What is the horizontal (x) axis? What is the vertical (y) axis? What does each axis represent?



Answer these questions!

1. How is this graph similar to the graph that you made of sunspot data from 1970-2004?

2. How is this graph different than sunspot data from 1970-2004?

3. The area shaded grey indicates a time of cool climate called the *Maunder Minimum*. Knowing this clue, you will be able to mark the following **true** or **false**.

   T **F** More sunspots mean more energy comes from the Sun.

   T **F** Less sunspots means that Earth has a warmer climate.

   T **F** Less sunspots means that Earth gets less energy from the Sun.

   T **F** More sunspots means that Earth has a warmer climate.

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