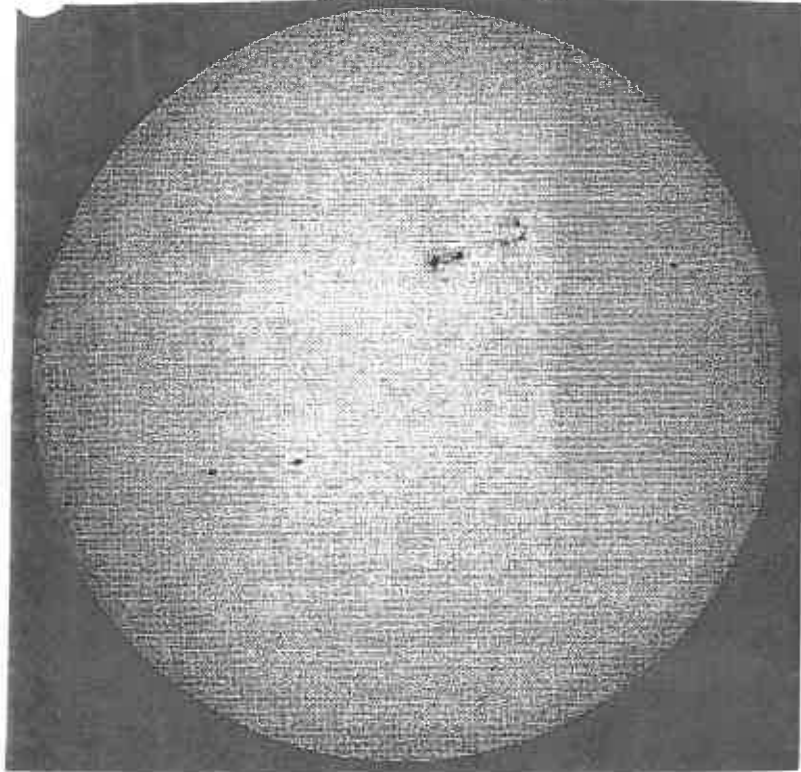


## How Big Are Sunspots?



1.) Consider the photograph of the Sun's photosphere above and determine the measured horizontal diameter of the Sun in mm using a ruler.

2.) Determine the "scale" of the image by dividing the actual diameter of the Sun ( $1.4 \times 10^6$  km) by the measurement of the horizontal diameter of the Sun in mm that you found in question #1. This is the scale factor (actual / measured).

3.) On the image, find the two small sunspots at the middle left and the two larger sunspots in the upper center of the picture and measure the diameter of all four.

4.) Convert the measured diameters from question #3 of the smallest and the largest sunspots to the actual kilometers by multiplying by the scale factor that you found in question #2.

5.) How do these sunspots compare to the distance between New York and Los Angeles? (3944km)

6.) How do these sunspots compare to the diameter of the Earth? (12756km)