

### Rate of the Sun's Rotation Lab

<https://sohowww.nascom.nasa.gov/classroom/docs/Spotexerweb.pdf>

#### Procedure

1. Participate in the brief sunspot review presentation.
2. Graph the sunspot group you are assigned by placing a dot on the longitude given and labeling each dot with its corresponding date.
3. Complete the following:
  - a. Determine about how many degrees of longitude their group moved each day. To get the average daily movement, determine the total degrees of change noted from one day to the next.
  - b. Add these up and divide by the number of days these represent.
  - c. Share your data analysis with the other groups and answer the following.
    - i. Do the A, B, and C teams agree? Did all sunspot groups move at about the same rate?
    - ii. What was the average?
4. Complete the Conclusion questions using complete sentence.
  - a. How quickly are sunspots moving daily?
  - b. How long does it take the sun to make 1 full rotation of 360 degrees? Remember, because the Earth is moving around the Sun in the same direction at about 1 degree per day (almost 365 days to circle the Sun in a year), we need to add one degree per day to the apparent movement to allow for this (Earth's movement makes it seem like the Sun is rotating less than it really is). *Note: The Sun, being a gaseous body - not a solid object - does not rotate at the same speed all over its surface: thus, it rotates about every 35 days near its poles.*

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