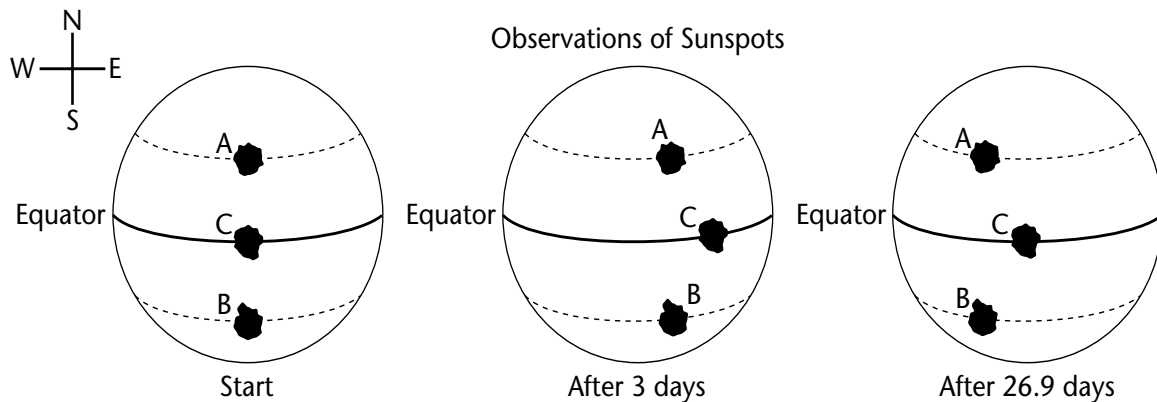


The Solar System ▪ *Enrich***Sunspot Clues**

Although sunspots were once unexplained blemishes on the sun's surface, their behavior has helped solve some of the sun's mysteries. One of these mysteries dealt with the rotation of the sun. Did it rotate, as did other large objects in the solar system? And, if it did rotate, what was its period of rotation? Astronomers helped answer these questions by observing the behavior of sunspots.

The diagrams below show how a series of sunspots behave over time.



Answer the questions below on a separate sheet of paper.

1. How have astronomers inferred that the sun rotates?
2. In what direction does the sun rotate?
3. Sunspots at the equator take 26.9 days to move once around the sun. What can you infer about how long sunspots A and B take to move around the sun, compared to sunspot C, which is on the equator?
4. Why do astronomers say that the sun rotates once every 27 to 31 days, rather than give an exact number?