

Sun's differential rotation

Quiz – Basic Level

Name: _____

Class: _____

Mark the proper way to end each sentence. Only one answer is possible.

1. Unlike the Earth, the Sun is not a rigid body. This means that
 - ☐ when studying its movement, you can not consider the Earth as a compact structure.
 - ☐ the Sun is about to turn into a compact structure by eating planet Earth.
 - ☐ the Sun is not forced to move as a whole.
 - ☐ when studying the movement of the Sun, you can consider it as a compact structure.
2. Unlike Earth's, the Sun's surface
 - ☐ is made of water, with sea currents that are free to move anywhere.
 - ☐ rotates at higher speeds in the equatorial zone.
 - ☐ is made of plasma that will turn into soil after a few years.
 - ☐ moves faster in the poles and slower in the equator.
3. Sun's rotation speed varies with the distance to the equator, this means that if two sunspots
 - ☐ appear in the centre of the Sun one above the other, they won't remain like that over time.
 - ☐ appear at the same distance to the equator, the distance between them will increase.
 - ☐ appear at the same time, will necessarily disappear at the same time.
 - ☐ appear to be friends, they will remain together forever.
4. We can calculate the rotation speed of the Sun by measuring the speed of sunspots because
 - ☐ sunspots want to help us and they whisper the Sun's differential rotation.
 - ☐ sunspots are located at the Sun's surface, that moves as a whole.
 - ☐ sunspots move like sea currents as they are free to move anywhere.
 - ☐ sunspots are located at the Sun's surface, whose speed we want to measure.
5. In the final pictures, a sunspot is seen in two different positions because sunspots
 - ☐ are duplicated by CESAR's web tool to do the measurements.
 - ☐ reproduce and duplicate like cells.
 - ☐ move with the Sun's surface, and the Sun's surface constantly rotates.
 - ☐ rotate faster if they are closer to the equator and slower if they are closer to the poles.

6. You looked at two different sunspots to

- ☐ check the speed of the Sun both close to the equator and close to the poles.
- ☐ put them in the same image to measure of fast it moves.
- ☐ measure the latitude of the Sun as seen by a radiotelescope.
- ☐ obtain more than one value of the Sun's velocity and increase precision.

7. Earth's rotation is the reason for day and night, Sun's rotation is the reason for

- ☐ Sun's day and night.
- ☐ the movement of Sun features.
- ☐ life in Earth's core.
- ☐ differential rotation.

8. To calculate the speed of a sunspot you

- ☐ used your knowledge about differential rotation.
- ☐ used a chronometer.
- ☐ looked at two different sunspots.
- ☐ tracked the sunspot in time-spaced images.

9. We say that the Sun has differential rotation because

- ☐ two sunspots in the equator don't necessarily have to rotate at the same speed.
- ☐ the plasma is differential and it does actually rotate.
- ☐ the plasma located at different distances from the poles may rotate at different speeds.
- ☐ the student's guide says so, and the students guide knows more than anyone.

10. The Sun rotates

- ☐ so fast that it is flat.
- ☐ clockwise, like the Earth does.
- ☐ counter-clockwise, like the Earth does.
- ☐ faster in the poles.